



LET US ENCOMPASS THE EARTH WITH A NEW ORDER OF TIME

VOL. X

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IN ENDORSING The World Calendar at Asheville, North Carolina, on July 9, the National Federation of Business and Professional Women's Clubs further solidified organized women's support of this much-needed revision of the calendar.

Following similar action taken more than a year ago by the two million members of the General Federation of Women's Clubs, the business and professional women have demonstrated that American women are progressively active in their support of the improved calendar. A committee, under the chairmanship of Mrs. Effie Rogers, and consisting of Mrs. Emilia Kennedy and Miss Agnes Mantor, after more than a year of intensive study, presented to the Conference, held at Asheville, the following resolution, which received whole-hearted approval.

"That the National Federation of Business and Professional Women's Clubs, Inc. endorses the calendar reform on the perpetual 12 month plan of equal quarters, known as The World Calendar and requests the United States Government to cooperate with other governments in bringing about calendar reform with a view to making The World Calendar internationally operative whenever the time for such cooperation is deemed proper by government officials."

The World Calendar appeals to women because of its simplicity and orderly arrangement; its economic value as a time-saver; its inherent stability which enables planning long in advance; its regularly recurring and conveniently placed holidays; and finally its two extra World-Holidays, bringing amity, good will and cooperation to the nations and peoples of the world.

With these two outstanding women's organizations adding their voices to the endorsement of governments, learned societies and other organizations, The World Calendar's becoming operative in the civil life of the world may not long be delayed.

Journal of CALENDAR REFORM

July, August, September
1940

Editorial: National Federation of Business and Professional

Women's Clubs	97
Revaluation of Time	Margaret Becker Kulp 99
Educational Approval	Helen T. Collins 102
Obituary Notes	105
Leap-Week Discussion	H. W. Bearce 106
New Argentine Chairman	109
Time in Bible Times	Charles Francis Potter 110
As Seen in Canada	Lt.-Col. J. Murray Muir 114
A Common-Sense Calendar	Elisabeth Achelis 116
Emperor and Pope	George Kent 120
Oddities of Time Measures	P. W. Wilson 124
Inertia as an Obstacle	128
Independence Day Change	Charles C. Sutter 131
A Diarist Looks at Time	Clare W. Harris 135
New Book in Spanish	The Reverend Edward S. Schwegler, D.D. 137
Editorial Departments	139

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REVALUATION OF TIME

By MARGARET BECKER KULP

AFTER THE WAR, what then? When these tragic times have become bitter memories, how will man reorganize his life? When these tense days that fall about us like old leaves from an ancient calendar have been brushed back into the past, will the world awake from its nightmare as did Alice, in Wonderland, when the cards tumbled down about her head, and will it start the great task of rebuilding its structure? And will a sane, new World Calendar fit into the scheme of things?

Of one thing you may be certain. The world as we have known it will be forever gone. Standards and values will have changed, and a new order of life will be set up. The world must go to work with an inspired zeal to fashion methods of living to meet the requirements of all human beings. Order must be created out of chaos, stability must follow confusion, harmony must follow strife, and construction must follow destruction, for all of this is but the inflexible working of the universal law of averages. And, under the same law, it must be assumed that out of people's throes of hatred, bondage and devastation must be born understanding, freedom and rehabilitation. And peace must rise like a phoenix from the ashes of a dead past. There will come a great and glorious world of tomorrow, and in this world the devices by which we design our living of today will be simplified, unified and woven into as nearly a complete and harmonious pattern as men may conceive. Space will be reportioned, time will be reconditioned, and humans will learn all over again the fine art of living amicably together.

It is not merely wishful thinking to look ahead to a time of reorganization and universal house-cleaning. For certain elemental changes in our international life must be brought abreast with the demands of modern times. And there must be no half-heartedness about it, we must do a thorough job. No stone, however small, should be left unturned in this general survey of world conditions and the mechanics by which life is motivated. Old moth-eaten notions and traditions which have lain in the attic of the earth for centuries must be brought out in the light of day and examined. Some of these will be discarded, some will be renovated, but none will be hoarded again if they are not adaptable to the 20th Century way of life. The important thing to remember is that these changes must have a world-wide scope, and not a purely local one, for today the whole world is our neighbor.

The tempo of life has quickened, its horsepower has leaped ahead with breath-taking agility. Back in 1492 it took Christopher Columbus and his

seasick sailors five long tortuous weeks to cross the Atlantic Ocean from Portugal to the Bahama Islands. Today the Yankee Clipper spans the Atlantic in 28 hours. Time was when written messages were relayed over circuitous routes by stage-coach and canal boat. Today we have air mail. Back in the horse-and-buggy days a weekly newspaper, small and inadequate, brought meager news of the world. Today we have elaborate publications with hourly editions. And the radio outruns them all, for we push a button or turn a dial and the living voice of the world speaks to us in our own homes. We have witnessed in one generation the marvels of the cable, telegraph, domestic and trans-oceanic telephones, and in these enlightened times we are privileged to see the miracle of television.

Certainly man has stepped on the accelerators of transit, trade, communication and commerce through the fast-moving decades. But, by some strange paradox, the very gadget which he uses in timing and spacing these channels of exchange and relationships has been singing out of tune with the melody of progress. The Gregorian calendar (that backward hand-maiden of Time) has carried on through all the years that have teemed with new devices of industry and invention, a bent and time-worn museum piece, while the rest of the implements for living have been streamlined.

The good Pennsylvania-Dutch folk have a descriptive phrase which would fit the Gregorian calendar perfectly. "Out of kelter," a term which means not attuned or adjusted to existing surroundings or conditions. There you have it precisely. The old calendar has outlived its usefulness in its present form. Its structure is unbalanced, its form unstable, its arrangement ragged and irregular. Its dividing quarters are unequal, its months have a varying and confusing number of weekdays, and the last day of each of its 52 weeks has an annoying habit of popping carelessly into any part of the following week. Holy days and holidays make unexpected, and often unseasonal, entries on the scene, thereby disrupting programs of church, school, businesses, trades, professions, and life in general. It seems unbelievable that in these days and times man should still charter his living by an outmoded measuring-rod of time.

Compare the advantages of the new World Calendar. Here is a time-clock which has balance, unity, stability and perpetuity, accomplished by the mere transposition of several days. It keeps faith with fact in that the four seasons of the year, the 12 months, 52 weeks and the allotted number of days, as established in the Julian and Gregorian calendars, are scrupulously retained. But it finally equalizes these component parts of the calendar and "squares" it into a modernized progressive instrument.

The new World Calendar will give to each month 26 weekdays in addition to its Sundays, and the days will be marshalled into the following week in an orderly way. The first day of the year will always fall on Sunday, the first day of the week, and the last day will always fall on Saturday. In the same manner the first day of each of the four quarters of the year will fall on Sunday, and the last day of each quarter on Saturday. Each quarter will have forever 91 days, with 31 days allotted to the first month in it, and 30 days allotted to the other two. It will be a perpetual arrangement in which

days and dates will sing together for they will be synonymous. Holy days and holidays will be stabilized with the added attraction that many of them will fall in that part of a week that will insure longer week-ends. The two extra days, occasioned by scientific accuracy in computing time, will take up the slack in fitting this old cloak to a new pattern. The first, to be called Year-End Day, will fall on the day to be designated as December Y, or 31. It will be considered as an extra Saturday-holiday, and will fit in between December 30 and January 1. The second, to be called Leap-Year Day, will come around once in every four years just as it does now, except that its place on the new calendar will be in the exact middle of the year. It also will be considered as an extra Saturday-holiday and will fall between June 30 and July 1. Both will be known as World-Holidays. You must agree that the sponsors of this new calendar have indeed followed the counsel of the wise old sage who advised man to emulate the busy little bee and improve each shining hour.

Let us once and for all face the problem squarely and honestly. No one seeks to revolutionize the calendar. Julius Caesar did that in 45 B. C. No one seeks to make a radical revision of it. Pope Gregory did that in 1582. Curiously enough only a few changes have been made in it up and down the ages, and this is as it should be. For the task of revamping so vital an implement of every-day living should be approached with solemn thought and great care. Yet no one can deny that the changes that have been accepted have been of inestimable benefit to mankind.

In reshaping the 358-year-old calendar of Pope Gregory, The World Calendar Association has brought to the work years of study, the advice of scientists from every branch of science. It has given love and profound reverence in the task of making a new calendar a perfect and complete instrument. Its attitude has not been that of reformer, but rather that of a parent who gently but firmly corrects the bad posture and awkward gait of a child. It has no thought of revolutionizing the yardstick of time. Its sole idea is to eliminate its incongruities, to iron out its inconsistencies and irregularities, to give it perfect form and perpetual balance.

In its transition The World Calendar could never produce a year of confusion in its adjustment as was the case in 46 B. C., the year before the Julian calendar was adopted. Nor would it command Time to stand still, as did the adoption of the Gregorian calendar when 10 days were dropped in order to catch up with the overtime generated by the Julian calendar's errors in arithmetic. The World Calendar would glide smoothly and quietly from the end of one year into the beginning of the next.

This proposed plan of calendar revision has been placed before all the nations of the world, and has been enthusiastically endorsed by a goodly number of them. It has met with the approval of national and international bodies and groups from all walks of life and in all branches of religious, educational, professional, scientific and other organizations. It is now placed before the peoples of the earth, offered as a keystone in the upshaping of tomorrow's world. And it will be recognized as an unqualified implement of peace, never as the fiat of a dictator, else it would become unsavory. Its mission is twofold, first as a progressive device in the revaluation of time, and secondly as a common denominator by which all races of men may speak together in the same language of time.

EDUCATIONAL APPROVAL

By HELEN T. COLLINS

Member, Executive Committee, National Education Association of the United States

EDUCATION in general and the National Education Association in particular are vitally interested in the calendar and in any plans for its improvement. The irregularities of our present calendar bear heavily on the administrative work of all those who are connected with our schools and colleges. A school calendar which must be annually prepared is an endeavor that contains all kinds of difficulties, complicated as it is with changing holidays and the fact that Christmas and Easter vacations never occur conveniently within the school year.

Consequently no two school authorities ever quite agree upon a definite and final solution, with the result that many different types of school calendars are in use in different school systems and colleges. This makes it difficult to make comparisons, to arrange state and national educational meetings, to cooperate in observances of special events, or to have members of the same family enjoying vacation periods together.

The school calendar itself is composed of many component parts, each of which taxes the ingenuity, and I may say the patience of college deans, school superintendents, principals, and all those whose administrative duty forces them to concern themselves with this annual problem.

Within the academic year there must be set up schedules of vacation periods, study programs, examination schedules, and many so-called extra-curricular activities such as athletic meets, monthly meetings of societies, tennis tournaments, football games, and so on.

Our present chaotic calendar makes exceedingly difficult the arrangement of these schedules. Some years the program works out very well and Christmas and Easter vacations fall naturally within the weeks allotted. Mid-week holidays often disrupt the scholastic year, and some years vacation periods are longer or shorter than is desired. In preparation of examination schedules it is well-nigh impossible, with the present calendar, to be fair with juniors and seniors, or to prepare a schedule that does not give advantage, let us say, to engineering students at the expense of those majoring in political science.

Annual shows, athletic meets, tournaments and games, as well as faculty meetings, must be planned on days that secure the greatest attendance without interfering with scholastic activities or other similar events. And then, too, middle-of-the-week holidays have a detrimental effect on both students and faculty alike. Students become more restless and less attentive on days preceding and following one-day holidays. If these holi-

days could be moved to Monday, both faculty and students would return to their classes refreshed and ready to tackle their specific problems.

The suggestion to transfer holidays to Monday would be very beneficial to the entire educational world, and an ordered calendar such as The World Calendar with its four equal quarters would make possible the setting up of a scholastic schedule comprising all school activities that would be good not only for the year in which it was prepared, but for all school years as well. Under The World Calendar, for the most part opening and closing dates, vacation and holiday periods for all educational institutions could be the same—permitting each school or college to arrange its own activities within this framework, to meet its own needs. This would lead to a definite cooperation between all universities and schools. The family could rest content that all their children at different schools would return to their home at about the same time.

With definite scheduled vacation periods, and with similar opening and closing dates of all schools and universities, it would be easy to set definite dates for state and national educational conferences which would permit the greatest possible attendance of educators.

The National Education Association first became interested in calendar reform at its meeting at Portland, Oregon, in 1936, although prior to that date educators the country over had realized its importance. The subject was discussed, in the Resolutions Committee, presided over by Miss Amy H. Hinrichs, recent president of the National Education Association, and it was decided to set up a sub-committee on calendar reform.

A committee under the chairmanship of Miss Margaret Rock, of Bridgeport, Connecticut, was instructed to spend the year in intensive study of the entire subject and report their conclusions to the next meeting of the Association, which was scheduled for Detroit, Michigan, the following year. Miss Rock's committee comprised: Mr. J. P. Coates, Secretary-Treasurer of the South Carolina Education Association; Miss Nancy D. Lee, President of the North Carolina Education Association; and Miss Helen Bradley, of Cincinnati.

In July, 1937, the official report of the committee on calendar reform was submitted to the Resolutions Committee. The report went into great detail concerning the calendar, its history, and the particular need that existed for reform of the calendar from the viewpoint of educational authorities. It discussed the two major proposals for calendar revision, namely, the 13-month calendar and the equal-quarter World Calendar. The Rock report specifically said: "Educationally, we would be relieved of the necessity of giving instruction in the different lengths of months which have no significance for most children in our schools. The calendar would be brought within the framework of orderly arithmetic.

"A perpetual Calendar would enable us to work out our educational

almanac, not only for the year in question, but for years to come. Many arrangements would be as perpetual as the Calendar itself."

The report concluded: "These are the general considerations that have led us to the opinion that the adoption of The World Calendar would be of advantage to the great enterprise of education to which we are devoting our lives."

The report was received with a great deal of interest by the Resolutions Committee, and as a result the following resolution, prepared by that committee, received the approval of the Representative Assembly of the National Education Association on July 1:

"The National Education Association endorses the movement for a simplified calendar as proposed by the Council of the League of Nations. The Association recommends that the members be kept informed as to the latest developments in the progress of this movement for a world calendar."

But the United States educational authorities have not been alone in their interest and approval of calendar reform, for at Tokyo, Japan, in August of the same year, the World Federation of Educational Associations approved a similar resolution.

Conforming with the National Education Association's resolution that its members be kept informed as to the progress of the movement for a world calendar, numerous articles have appeared in educational journals; talks have been given before school bodies and educational groups; and literature has been made available to the schools and colleges.

This year at the National Education Association's meeting, held in Milwaukee, and at the request of the Exhibits Committee of the National Council of Teachers of Mathematics, The World Calendar Association staged a comprehensive exhibit of the story of the calendar. Chronologically arranged was a series of original paintings and calendars portraying the measurement of time from the year 4236 B. C. to the present. The visitor was conducted on a pictorial journey which started with man's earliest time-sense, the separation of day and night. It stopped to depict man's first calendar based on the moon and the working out of the solar calendar by the Egyptians who measured time by the sun from the study of the sky and the shadows thrown on the desert by the pyramids. The Egyptian calendar of 12 months of 30 days each with five closing days of festival was shown.

The exhibit continued with Julius Caesar's study of the solar calendar and his decreeing of the leap-year day which gives us the irregular calendar we now have. The Julian calendar with its months divided into a complicated system of Kalends, Nones, and Ides, was portrayed.

Augustus was indicated rearranging the Julian calendar on the basis of the four seasons, and the Augustan calendar was shown as it would

appear today. The introduction of the week with Sunday as a day of worship was one of the pictures built around the figure of Constantine, and the calendar as influenced by him was graphically shown. Pope Gregory XIII was pictured as consulting with the scientists of his day in an attempt at adjustment of the calendar to scientific accuracy. The Gregorian calendar that we now use followed with its correction of the leap-year rule and the fixing of spring as March 21. The perpetual World Calendar, with its exact 52 weeks, four equal quarters, and two equal half-years, with its Year-End Day holiday and extra mid-year holiday in leap years, was prominently displayed.

The final pictures showed the advantages of The World Calendar in our modern world, its general application, the balance and stability which will be brought into the time-system of the future, as man, ever seeking economic, social, and civic betterment, goes on to fulfill his age-long efforts toward perfection. Finally the ease of adoption in 1944 was demonstrated and the many national and international approvals of The World Calendar by governments and organizations were prominently mentioned. The exhibit attracted hundreds of educational visitors who evinced considerable comment and approval. Large quantities of literature were taken away by teachers to be used in classrooms this fall to present this ever fascinating subject to their pupils.

Delegates to National Education Association conventions have shown an increasing interest in and knowledge of calendar reform and The World Calendar, and it was their interest that brought The World Calendar officially to the attention of the National Education Association.

The Association placed itself behind The World Calendar in 1937, and it continues its interest in the progress that the movement makes, not only in this country, but throughout the world. It looks forward to the day when education will be able to use this simplified and improved calendar.

Surely a calendar which would go a long way toward solving one of education's pressing problems, a calendar which has a measure of national and international acceptance, should enlist the support of all those connected with schools and colleges. Educators everywhere have been persistently plagued by the irregularities of the present calendar and will welcome The World Calendar as a solution of their problem.

OBITUARY NOTES

DR. WILLIAM E. HARPER, director of the Canadian Government's astrophysical observatory at Victoria and one of North America's leading astronomers, died on June 4 at the age of 62. He had been a member of The World Calendar Association since February, 1932.

Other deaths among the membership of The World Calendar Association include *The Rev. Howard A. Johnston*, Milwaukee; *W. C. Higgins*, Editor, Bradford, Pa.; *The Rev. W. E. Shirey, D.D.*, Seymour, Ind.

LEAP-WEEK DISCUSSION

By H. W. BEARCE

National Bureau of Standards

(Publication Approved by the Editorial Committee, National Bureau of Standards, U. S. Department of Commerce)

OBJECTION to The World Calendar has been raised by certain religious groups on the ground that the inclusion of a 24-hour period without weekday name within the last week of each year, and of another such 24-hour period at the end of June of each leap year, would result in an interruption of the regular succession of the seven days of the week, and that this interruption would be in violation of divine command.

There can be no doubt that the inclusion of a 24-hour period without weekday name at any point in the year, whether as proposed in The World Calendar, or as proposed by advocates of the 13-equal-months plan, would result in an interruption of the regular succession of the seven days of the week. This interruption would occur once in each ordinary year and twice in each leap year. That this interruption would be in violation of divine command, or that it would be in any way objectionable from a religious standpoint, is open to serious question.

The inclusion in the calendar year of a 24-hour period without weekday name, or as a double Saturday, as proposed in The World Calendar plan in order to obtain a perpetual calendar, may properly be regarded as no more a violation of divine command than the dropping of a day when crossing the International Date-Line in one direction, and the repeating of a day when crossing it in the opposite direction.

The calendar, on the other hand, may be regarded as a device conceived by man as a means of reckoning time and recording events, and no more of divine origin than is a sun-dial, a clock, or a watch. These instruments have, without objection, been improved from time to time, as the intelligence and experience of man have made improvement possible. There would seem to be no more ground for objection to improvements in the calendar, either those that have already been made, or those that may yet be made, than there is for objection to improvement in sundials, clocks and watches.

The religious aspects of calendar revision, especially with reference to the interruption of the seven-day week, have been so understandingly and so completely treated by Rabbi Martin M. Weitz and Mr. Charles C. Sutter, in the *Journal of Calendar Reform*, Second Quarter, 1939, that they need not be discussed in detail here.

Another point that deserves consideration is the fact that neither Ortho-

dox nor Liberal (Reform) Jews accept our present (Gregorian) calendar except for civil purposes. They still use the Jewish calendar in fixing their religious holidays and festivals. Their objection to substitution of The World Calendar for the Gregorian, on religious grounds, cannot, therefore, be accepted as valid. As they now use the Jewish calendar for religious purposes, instead of the Gregorian, so also would they, no doubt, continue to use it instead of The World Calendar, even if that were adopted and used for civil purposes. They would then be no worse off, from the religious standpoint, under the proposed World Calendar than they now are under the Gregorian calendar, and they would have the advantage, in common with others, of being able to use it for civil purposes.

We can all agree that the revolution of the earth on its axis, causing day and night, and the movement of the earth in its yearly journey around the sun, causing the succession of the seasons, are in accordance with laws which transcend human intelligence and human power to alter. These laws must be accepted as a part of the general plan of the Creator and Ruler of the Universe. Surely no one would be so rash as to attempt to alter these laws.

It is a well-established fact that the year as measured by the earth in its journey around the sun does not contain an integral number of days, as measured by the revolution of the earth on its axis. As nearly as has been determined, the tropical year contains 365.2422 days. This excess of slightly less than a quarter of a day per year is what makes it necessary to have an extra day in the calendar year every fourth year (with certain century years excepted).

A further complication arises from the fact that neither 365 nor 366 is evenly divisible by seven. That is, the calendar year never contains an integral number of complete weeks of seven days. There is always a remainder of one day in an ordinary year, and two days in a leap year. From this it follows that each year begins one day or two days later in the week than the year preceding. Successive years are, therefore, not comparable because of a different distribution of days of the week, Sundays and holidays, within the months.

One of the main objectives sought in calendar revision is to obtain a perpetual calendar, that is, one in which the year will always begin on the same day of the week. A second important objective is to have all years as nearly equal as possible. A third important objective is, of course, to have the average length of the calendar year as nearly as possible equal to the tropical year, so that dates of the calendar year will not drift with reference to the seasons.

The first of the above objectives could be obtained in a wide variety of ways, most of which, however, are precluded by one or both of the other two objectives. For example, the calendar could be made perpetual by

making the year contain 364 days, or 52 complete weeks with no remainder. This would also make all calendar years equal. The plan, however, would be seriously defective in that there would be an accumulating excess of 1.2422 days per year which would violate the third important objective mentioned above. That is, there would be a drift of calendar dates with reference to the seasons, so that in the course of some 175 years July 4 and "summer" vacation would fall in the dead of winter. This plan, therefore, could hardly be accepted as a satisfactory solution.

Again, the 1.2422 days per year in excess of 364 days, or 52 weeks could be allowed to accumulate over several years until the excess amounted to a full week. This could then be added at the end of the year, thus giving to that year 371 days, or 53 weeks, instead of the usual 52. This extra week would be added, on the average, every 5.6352 years. That is, it would be added every five or six years according to some regular arrangement.

An arrangement that would be nearly exact would be to add 11 extra weeks in a period of 62 years. These 11 weeks could be distributed through the 62-year period by inserting a week after each five-year or six-year period as follows: 5, 6, 6, 5, 6, 6, 5, 6, 6, 5, 6. The 11 extra weeks thus inserted in a period of 62 years would be equivalent to 77 days, whereas the actual excess over 52 weeks per year, in 62 years, would be 1.2422×62 , or 77.0164 days. The total of the 11 extra weeks in 62 years is, therefore, shorter than the actual excess accumulated in 62 years by 0.0164 day. This error amounts to one day in about 3,800 years. A leap-year rule based on this arrangement would be somewhat more exact than our present leap-year rule under the Gregorian calendar.

The plan of allowing the excess to accumulate and then adding an extra week every five or six years cannot, therefore, be objected to on the ground that it is inaccurate. The plan is, however, open to serious objection on the ground that successive years would not be equal and comparable. Every fifth or sixth year would be longer than the normal year by a full week or by nearly 2 per cent. This plan, therefore, fails to attain the second important objective mentioned at an earlier point in this paper. That is, it fails to make all years equal and comparable.

Some of the inconveniences and disadvantages that would result from the use of a calendar in which the years are so seriously unequal can readily be appreciated. For example, consider production and sales statistics, operating costs, rents, salaries, interest payments, profit and loss statements, and all other business matters that are handled on an annual basis. Under such a calendar all figures on an annual basis would be subject to "adjustment" between "long" years and "short" years in order to make the figures comparable. While, admittedly, the adjustment could be made, it would be an insufferable and unnecessary nuisance since a far better plan is readily available in The World Calendar under which

such adjustment would seldom be necessary, and even when necessary would be for only one day in 365, instead of for one week in 52. On that basis The World Calendar plan is seven times as good as the "accumulated week" plan. As a matter of fact, the practical advantage of The World Calendar plan is much greater than seven to one, since under it for most purposes no adjustment whatever would be necessary.

Objections to the "accumulated week" plan of calendar revision could be multiplied almost indefinitely. For example, consider the inconveniences that would arise from having a month containing an extra week every five or six years. How would the worker on an annual or monthly salary pay the extra week's expenses? Consider the farmer, who is concerned with dates of seed-time and harvest. These would be thrown out of line by the extra week. Consider the astronomer, who is concerned with the relative positions of the heavenly bodies on a given date; the dates of the equinoxes, solstices, eclipses, etc.; the time of sunrise and sunset on a given date. The dates and times of all these events would be directly and seriously affected by the insertion of an extra week from time to time.

What of school schedules, vacations and holidays? Would schools continue for an extra week during the "long" year? If so, what about the teacher's pay for the extra week? What about national events and personal anniversaries which occur during the extra week, are these to be ignored during the greater number of "short" years?

All in all the plan of calendar revision on the basis of the "accumulated week" idea seems so inconvenient, clumsy, and generally undesirable, that its acceptance cannot be given serious consideration. The single fact that it does not meet the basic requirement of making corresponding periods directly comparable is enough to condemn it. Its acceptance would, in effect, be putting calendar revision back some 2,000 years to the pre-Julian days when the year contained 12 months of 30 days each, with an extra month intercalated at irregular intervals to make up the accumulated shortage. If we have not progressed beyond that point in 2,000 years, we had best leave the calendar as it is at present.

NEW ARGENTINE CHAIRMAN

THE ARGENTINE COMMITTEE for The World Calendar has recently nominated to its chairmanship Rear Admiral Jose Guisasola, Director of the Naval War College. He is a distinguished naval officer and his appointment will insure the continuation of the fine work of this important Latin-American committee.

Rear Admiral Guisasola succeeds Dr. C. D. Perrine, Director of the Cordoba Observatory, one of the world's outstanding men of science, who is retiring from the committee because of ill health. From time to time Dr. Perrine has had to relinquish an increasing number of his activities for calendar reform, which have been carried on most ably by Father Juan V. Monticelli, S.S., Vice Chairman of the Argentine Committee. The committee also has a new councilor in the person of Señor Juan O. Mariotti of Buenos Aires.

TIME IN BIBLE TIMES

By CHARLES FRANCIS POTTER

Author of *The Story of Religion* and *Is That in the Bible*

YOU MOVE into a different time-world from ours when you open your Bible. You find yourself in a much more leisurely atmosphere, where exact time-measurements are unknown and the calendar a very casual affair. A modern city-dweller, living in this mechanized age when minutes are important and when speed contests and radio have accustomed us to split-second timing, is surprised to learn that the words "minute" and "second" are not found anywhere in the Bible. The patriarchs of the Old Testament and even the disciples of Jesus were time-wealthy and had no use for such small change. When hours, days, weeks, months and years are mentioned in the Scriptures, they seldom correspond exactly to our divisions of time with the same names.

Neither the word "calendar" nor the word "clock" is used in the Bible. Only one sun-dial is mentioned, and that belonged to a king. It was on this dial of King Ahaz that the prophet Isaiah is said to have caused the shadow to move backward 10 degrees as a sign to King Hezekiah. The story itself bears eloquent testimony to the naive ideas about time which then prevailed. Nobody in Isaiah's day realized that the earth would have to reverse its motion if the shadow on the dial were to move backward. No one even dreamed that the result of such a reversal, had it really occurred, would have been a tidal wave that would have wiped Isaiah, King Hezekiah, the sun-dial, and all the inhabitants of Palestine out of existence!

Today "time marches on" inevitably by regular measured steps, but in Bible days, for all that even the wisest men knew, time might loiter, stop altogether, or even go backward. There was nothing incongruous to them in the thought of Joshua commanding the sun to stand still until Israel was avenged of her enemies. They were blissfully unaware of the catastrophe to the whole solar system which would have ensued.

Indeed, the very idea of measuring time with precision was quite foreign to the ancient oriental mind. In dating an event, exactness did not matter. Again and again we read, "In the process of time it came to pass," or "After a time he returned," or "When he had been there a long time." The great life-spans attributed to the patriarchs, sometimes over 900 years, show another example of carelessness of time-measurement. Probably we should drop a cipher to get the correct age. Otherwise we strain our credulity to believe that Noah was 500 years old when he "begat Shem, Ham and Japheth."

The concept of time itself, in an abstract sense, was very vague in the minds of those who wrote the Bible. Certainly the translators have had

their troubles in trying to make intelligible to us the peculiar ideas of time and duration of time which they found in the Hebrew and Aramaic and Greek originals. Young's *Concordance* lists 16 different words—10 Hebrew and six Greek—which are translated “time” or “times.”

The word “hour” does not occur in the Old Testament until we come to the Book of Daniel, one of the last books written, and the only reason we find it in Daniel is because of a poor translation. The ancient Jews never thought in terms of hours. In the five places in Daniel where our Bibles have the word “hour,” the Aramaic word so translated is “shaah,” which means literally “look” or “glance” and should have been rendered “moment” or “in the twinkling of an eye.”

For instance, in the King James version, Daniel 3:6 reads: “And whoso falleth not down and worshippeth shall the same hour be cast into the midst of a burning fiery furnace.” In Dr. Moffatt's new translation, in place of “the same hour,” the word “instantly” is correctly used.

When we come to the New Testament we find the word “hour” often enough, but it is not the hour that we now know. The length of time it indicates varies greatly. It may refer to an instant, to 45 minutes, an hour, an hour and a quarter, a period of three hours, a day, or even a season!

The reason for these strange variations is the fact that during the time when the New Testament was being written, the word “hour” was in the process of evolution. It was still in a fluid state. Various meanings of the word were contending with each other for popular acceptance. Greek, Roman and Jewish ideas of time-measurement were prevalent in Palestine at the same time.

The word “hour” comes from the Greek word “hora.” The “Horae” were the three mythological goddesses of the seasons—spring, summer and winter. This was before autumn was recognized as a season. Their names were Eunomia, Dike and Eirene, meaning Good Order, Justice and Peace, guardians of the orderly succession of the processes of nature.

“Hora” therefore meant “season” in a very general sense, almost synonymous with “a time.” It was simply a measurable lapse of time with a beginning and an end but with no uniform length of duration. That ancient Greek meaning of the word persisted into New Testament times even after “hora” came to be used also to mean a division of the day. Consequently, when the translators came across the word “hora,” they found it very difficult to determine what English word to use.

Several times they translated “hora” as “day”; several other times they rendered it “season,” and they were correct in so doing. But in some verses where “hora” should have been translated “moment” or “instant,” they rendered it “hour.”

Even in the many places in the New Testament where the word “hora” is used to indicate a period of time somewhat corresponding to our modern

hour, it should be understood by the Bible reader that the New Testament hour varied greatly in length.

There were astronomers then, to be sure, who had carefully worked out the exact length of the day from their observation of the stars and the equinoxes, and had divided the day into 24 equal parts or hours, like the ones we use today. These they measured by a clever mechanical device which they called the clepsydra, literally the water-stealer, a primitive forerunner of the clock.

But the common people of New Testament times, in their homes and in business, knew nothing of the day of 24 equal hours. To them the day was the period between sunrise and sunset, and that was divided into 12 equal parts called hours. Of course, the hours were therefore much longer in summer than in winter. In midwinter their hour was equal to only three-fourths of one of our hours and in midsummer was as long as our hour and a quarter. But in their leisurely method of living, they did not worry about such small matters.

Practically, too, Jesus' contemporaries did not even bother very much with separate hours. They used mostly the third, sixth and ninth hours, meaning mid-forenoon, noon and mid-afternoon. As a matter of fact, the first, second, fourth, fifth, eighth and 12th hours are never mentioned in the New Testament at all. The 11th hour is referred to twice, but in the same story; and the seventh and tenth hours are mentioned but once each. And in half the places where any hour is mentioned, it is prefaced by the word "about." "About the ninth hour" is a common phrase, and meant evidently "along about some time in the afternoon."

The night was divided into watches. In Old Testament times there were three—the evening watch, the middle watch and the morning watch. That usage carried over into the New Testament, but the Roman four-watch night was also coming into use. There is an interesting example in Mark 13:35, where all four watches are named, "Watch ye therefore: for ye know not when the master of the house cometh, at even, or at midnight, or at the cockcrow, or in the morning."

The week is not very important in the Bible. It is mentioned only 26 times, while the month is referred to 250 times, the year 834 times and the day 2,352 times. You would think that the week would be important, because it was popularly supposed that the seven-day week was ordained by Jehovah himself when he created the world in six days and rested on the seventh, thus establishing the Sabbath. But it is extremely probable that the Jews adopted the seven-day week, including the Sabbath, from the Babylonians, who probably got it from the four phases of the moon. Scholars are inclined to think that the Hebrew week was not derived from the Creation narrative, but vice versa.

In the Old Testament, the word for week is "shabua," from "sheba," the Hebrew word for seven. In the New Testament, it is "sabbaton" or "sabbata," meaning "from Sabbath to Sabbath." The days of the week were not named like our Sunday, Monday, et cetera, but were numbered, save the seventh, the Sabbath. Since the week was also named the sabbath, there is some confusion in certain passages. The afternoon of the sixth day (our Friday afternoon) had a name of its own, "the preparation," since at that time the Jews were preparing for the Sabbath. Our Sunday was known as "the morrow after the Sabbath" or as "the first day of the week" until the very end of the Bible, where we find the first use of a new name for it which later became very popular in the apostolic Christian Church. In Revelation 1:10 the author says, "I was in the Spirit on the Lord's day." Even today many Christians prefer that name to Sunday, which they consider an unwarranted concession to heathen sun-worship. It was on "the first day of the week" that the Bible says that Jesus rose from the dead, so that day was chosen as particularly His.

The Hebrew word for month was "chodesh," which literally meant "new moon," and was used because the month extended from one new moon to the next. It is difficult for the amateur student of the Bible to know just what time of year is meant when any month is mentioned, because there were in the Bible three different ways of designating

the months—two sets of month-names besides the use of numbers. And even when numbers were used, the first month was not our January, but the latter part of March and the first part of April. Still further to confuse the student, the first month of the sacred year was the seventh month of the civil year.

The oldest set of month-names used in the Bible was of Canaanite origin, and agricultural in character. Only four of these are mentioned. Abib, which means sprouting or budding, was the first month, and began with the new moon of March or April. It was the month of the spring equinox and was traditionally the time when the Jews came out of Egypt—the Passover time, or our Easter. It is mentioned four times in Exodus and twice in Deuteronomy.

Zif, the second month, was the month of flowering, and is mentioned twice in First Kings. Ethanim, the seventh month, named only once, in First Kings, means “perennial” and was so named because it was the dry month, corresponding to our September-October, when only the never-failing springs and streams flowed. Bul, the eighth month, also mentioned only once, in First Kings, was named for the ancient rain-god of the Canaanites, because in that month the fall drouth ended and the rains came.

When the Jews went into the Babylonian exile in the Sixth Century B.C., they dropped the old names for the months and used numbers, but when they returned from the exile, they brought back with them the Babylonian month-names.

It was no longer Abib, or the first month, but Nisan, named for the Babylonian god of spring. One would have thought that the priests of Jehovah would have resented that. Then followed in order Iyyar, Sivan, Tammuz, Ab, Elul, Tishri, Marcheshvan, Kislev, Tebeth, Shebat and Adar. Of these 12 names, only seven are mentioned in the Bible—Nisan, Sivan, Elul, Kislev, Tebeth, Shebat and Adar.

The Hebrew year, or “shanah,” was thus made up of 12 lunar months, but since the month, from new moon to new moon, was only $29\frac{1}{2}$ days, the lunar year contained only 354 days, and some sort of intercalation was necessary to bring it into line with the solar year of $365\frac{1}{4}$ days. This was done by occasionally adding an extra month after the last month, Adar (February-March), and this extra month was named We-Adar, or Second Adar. The Babylonian cycle of introducing the intercalary month seven times in 19 years was adopted, but the calculating became so complicated that ordinary people simply accepted the official figures announced by the Sanhedrin, or Great Council.

Of course, in New Testament times the Roman influence brought the Julian calendar to the attention of the Jews and Christians, but the old customs continued to prevail in Palestine. It seemed a betrayal of their religion for Jews to accept the Roman calendar, and the non-Jewish Christians adapted themselves to the situation as best they could. There is no evidence in the New Testament that the Julian calendar had been adopted by Christians.

The old Jewish calendar of Bible days with its lunar year and complicated intercalation is still in use today as the sacred calendar of the synagogues, although the modern Jew perforce uses the Gregorian calendar in his business affairs.

It would be a great step forward if both Jews and Christians were to adopt the proposed perpetual World Calendar of equal quarters, and relocate their holy days accordingly.

AS SEEN IN CANADA

By LT.-COL. J. MURRAY MUIR

Secretary, Rational Calendar Association of Canada

WHILE the continued threats and final outbreak of war during the past year have diverted the attention of governments from constructive issues, the world-wide interest in calendar reform has not been lessened. Rather has the movement been gaining in strength, particularly in the English-speaking countries and in France. From evidence in the form of reports of governments, international organizations and representative committees all over the world, the favoring of a moderate reform of the calendar is indisputable.

A review of progress in calendar reform during the past two decades marks 1937 as perhaps the most important year. In that year the Council of the League of Nations unanimously approved the submittal of a moderate and practical plan for revision, based on the features of The World Calendar of 12 months and equal quarters, to its States Members as well as to non-member States. The draft Treaty envisaged the adoption of the revised calendar on January 1, 1939, subject, of course, to the approval of an international conference. Subsequently, 14 governments accepted the plan, six definitely opposed it, nine offered no remarks, nine could not define their attitude for the moment, and seven considered the reform premature. From these reactions the League of Nations Committee, while still affirming its belief that the social and economic advantages to be derived from the reform were "incontestable," recommended postponement of consideration of the question for the time being.

Of considerable importance, too, was the observation of the Uruguayan representative on the League's Communications Committee in 1937, to the effect that the Vatican, far from closing its door to reform, was holding it open. The indications of today are that liturgical circles in the Vatican are very much alive to the fact that the 358-year-old Gregorian calendar calls for a revision to adapt it to modern needs.

A gratifying result of the growing and widespread interest in The World Calendar is the increasing and sympathetic support of the Press of all countries. In this connection the daily and weekly newspapers, the national magazines and business periodicals published in Canada have generously contributed space to the various aspects of, and the need for calendar reform, as well as the advantages of The World Calendar.

Owing to the European war and its attendant effects upon non-belligerent as well as belligerent countries, all questions, except those relating to peace and war, finance and economics, have been relegated to the background, as far as official action is concerned.

The task of bringing nearer the friendly international discussion which will be necessary to secure the adoption of The World Calendar rests on those who appreciate the values of such a movement and the bearing it may have on the more important issue of promoting harmonious relations between nations. In this task the Rational Calendar Association of Canada, in company with its affiliated Association in Great Britain and similar organizations and committees through the world, will continue to take every opportunity to impress on representative bodies the desirability of keeping their governments alive to the need for calendar change.

Individual members of the Rational Calendar Association of Canada can add tremendous force to this work by their own efforts in pressing the demand for reform upon their Members of Parliament, by instigating corporate bodies of which they are members to pass resolutions in favor of calendar reform, and by giving publicity to their own ideas on the subject through letters to the Press.

In answer to the frequently asked question as to how and when The World Calendar can conveniently and without interruption be put into operation, the following extract from a recent address given by Miss Elisabeth Achelis, President of The World Calendar Association, New York City, is given: "It (the adoption of The World Calendar) can be accomplished by the calling of an international conference by one great power . . . or by several smaller nations working concertedly together, by 1943, earlier if possible. Concerted action and the drafting of a treaty at such an international conference would then be ratified by the various governments and The World Calendar would be put into operation on the last day of December, 1944. It is on the last day of *that* year, when December 31 falls on Sunday in the old calendar, that it can be transformed into the Year-End Day of the new calendar, by which The World Calendar can be put into operation on the next day, *Sunday, January 1, 1945.*"

"This year's financial calendar which contains two Easters (April 9, 1939, and March 24, 1940)," states the *Financial Times*, London, England, "provides a strong weapon of argument for calendar reform and a fixed Easter." "All companies and corporations," the item continues, "when accounts are made up to March 31, will have difficulty in comparing their current year's figures with those of a year ago."

With the recent formation of calendar reform committees in Australia and Yugoslavia, the international organizations working on behalf of this movement now total 35. The former, which embraces New Zealand as well as Australia, has its headquarters in Canberra, Australia, while the latter is located in Belgrade, Yugoslavia.

In May, 1939, the General Federation of Women's Clubs in the United States, meeting in San Francisco, passed a resolution endorsing The World Calendar as a needed reform, and requesting the Government of the United States to cooperate with other governments in making The World Calendar internationally operative. In a preliminary report of a committee of the International Statistical Institute, in 1937, Dr. H. Platzer reviews the progress toward calendar reform and recommends that the Institute's committee continue to study the question, with particular reference to the effects of calendar irregularities on statistical compilations.

A COMMON-SENSE CALENDAR

By ELISABETH ACHELIS

President, The World Calendar Association

Text of a broadcast over Station WFAS, White Plains, New York, April 14, 1940

WHEN we speak of a new calendar we cannot escape the appeal the familiar 12-month calendar has for us all. The convenience of quarter and half-year divisions, and the close parallel these have to the four seasons are too fundamental lightly to be discarded.

Blazing the trail for a much-needed new calendar, a group of pioneers, headed by the late George Eastman of Rochester, awakened the public to the defects of our present one and aroused the realization that something ought to be done about it.

The awkward and irregular calendar in use today is outmoded in our age of progress. The calendar in its irregularities and haphazard shifting no longer serves our every-day needs.

Just consider for a moment the annoyances we are annually experiencing with our Thanksgiving Day coming on either the fourth or fifth Thursday in November, which our President attempted to improve without success by proclaiming it for the third or fourth Thursday. A definite day, the fourth Thursday or the fourth Monday even, would eliminate the present confusion and difficulty.

Washington's Birthday also and the Fourth of July, too, wander incessantly throughout the week, so that we never know from one year to the next on what weekdays these important national holidays will fall: whether on a day making possible a long week-end or on a Wednesday or Thursday breaking awkwardly into the middle of the week, which satisfies no one. The manner in which our holidays shift is always confusing, especially so when we plan vacations with our families. Yet obviously, no holiday can be fixed as to day and date without first establishing a *perpetual* calendar, which is every year the same.

The business world, too, is seriously inconvenienced. Having sometimes four, sometimes five Mondays or Fridays in a month is a difficulty which upsets production, earnings, wages and reports. Likewise our quarter and half-years are actually not equal in length. They vary from two to three days.

The group headed by George Eastman suggested a perpetual calendar of 13 months. This had a novel appeal for the reason of its complete change from the familiar 12. It also received a certain response from statisticians because of the precise nature of 13 months of four weeks and 28 days each—a rather monotonous arrangement. It gained quite a fol-

lowing at first, but it failed to hold the ground its novelty had won. Anything so radical was too upsetting for popular favor. Even when it was tried, it just somehow did not work as anticipated.

In a recent statement made in the press, Sears, Roebuck and Company, after a period of 10 years of trial and experiment, has given up the 13-period system in its reporting of sales. It found that the custom among business accountants of considering statistics on a 12-month basis was too deeply rooted and convenient to be abandoned, and the public, too, clung to the familiar 12 months, for to them a four-week period did not somehow seem a complete month. The company also found a lack of cooperation from other firms in the business world. In its *internal* accounting system, however, the company is retaining a 13-period method. With the defects in our present calendar, such a system eases, in part, some of the difficulties which the business world is encountering.

Here is proof that when a change is made from one order to another we cannot adopt a new plan without careful thought. It is hazardous to swing to extremes: from the old way to a drastic and radically new one.

Common-sense advocates the middle way. It is tolerant to both old and new. Thus it creates a happy balance between the two and achieves the temperate point of view more likely to succeed.

Such a common-sense revision is that of The World Calendar of 12 months and equal quarters. It retains the best feature of the outmoded present calendar—namely, the 12-month year with its handy quarter and half-year divisions. It is also liberal in accepting a completely *new* feature—namely, the one or two “intercalary” days which are required to make any civil calendar perpetual—every year the same. Thus it *respects* the past, *considers* the present and *provides* for the future.

This common-sense change is the answer to our modern need for bringing the calendar up to date. The months are more equally apportioned, quarter and half-years are equalized, days and dates agree with each other, and the one or two new days make it perpetual so that each year is completely comparable with other years.

Now as to its more detailed arrangement:

Each quarter-year is given 91 days or 13 weeks or three months corresponding to the seasons. Each quarter begins on a Sunday and ends on a Saturday. No discrimination is shown the day, week or month. They are all considered on the same equal basis, giving the new calendar a desirable equality, an order and stability, quite unknown in the one we are now using.

This is possible because the first month in each of the four quarters has 31 days, the remaining second and third month each have 30, whereby a pleasing variety is achieved without sacrificing the newly gained order and stability.

And to keep the calendar true with the seasonal year, the 365th day is placed at the end of the last quarter as an extra Saturday, called "Year-End Day." It is designed as a *World-Holiday* and dated either December Y (for Year-End) or December 31.

Each year the perpetual World Calendar brings this new "gift" day to the world. On this *World-Holiday*, nations and peoples of whatever race and creed can unite in fostering better cooperation and friendship throughout the world.

And in leap years, the 366th day, known as "Leap-Year Day," is another *World-Holiday*, placed on another extra Saturday in midsummer, immediately after June 30. It is placed here to keep the calendar accurately balanced. It is dated June L (for Leap-Year) or June 31. New Years Day, January 1, since it begins the first quarter, naturally falls on a Sunday.

One of the advantages of this new calendar is the ease with which it can be used in business. The four time-units—the day, week, month and quarter—always end simultaneously at the close of each quarter. Because of this, pay-days, the preparation of financial budgets and all other commercial activities are simplified. Days and dates always agree with each other. Pay-days recur on the same day and date, year after year. And, in addition, the familiar arrangement of having 12 monthly payments a year is not lost.

The simple fact that the four dates for the annual Federal Income Tax payments always fall on the last full business day of the week, Friday, is in itself a recommendation. It lightens the task of both people and government.

The year 1945 is the nearest time when The World Calendar can be put into active operation easily. The last day of the preceding year, 1944, falls on Sunday, December 31. By considering that day as "Year-End Day," placed on an extra Saturday, the new *World-Holiday*, our calendar would read like this: December 30, 1944, would be Saturday in both the present and the new calendars. The next day, being the old Sunday, December 31, would become "Year-End Day," an extra Saturday. The following day would be Sunday, January 1, 1945, under the new calendar. Could any change from old to new be simpler and easier than this?

Reforms in the past brought improvements and accuracy into the calendar. Following in their footsteps the new World Calendar of today would bring order, equality and stability into our modern lives and activities.

The World Calendar of 12 months and equal quarters has been approved by 14 nations. It has been endorsed by many international and national organizations, such as the American Association for the Advancement of Science; State and City Chambers of Commerce in the United

States, as well as the influential British and Empire Chambers of Great Britain; the General Federation of Women's Clubs here; and the Labor Conference of American States held at Santiago, Chile, in 1936.

The mention of Chile is most fitting for today, April 14, is the Golden Anniversary of the Pan American Union in Washington. Many of the nations which constitute the Pan American Union are interested in this new calendar. Six have officially approved it and almost all have active calendar committees. The Director-General of the Union, Dr. Rowe, has been interested for many years and is a member of long standing in The World Calendar Association.

The Eastern Hemisphere is unhappily in a state of war and confusion. May we not hope, then, that the nations of this Western Hemisphere—the United States with the other American countries—may offer The World Calendar as one of the contributions to a greater world harmony?

It is in days of spiritual and material stress that men and women are most ready to turn to causes which remove unsatisfactory and discordant conditions and invite better days.

Robert Bridges, the late Poet Laureate of England, with keen insight wrote: "Our stability is but balance." With the adoption by 1945 of the common-sense World Calendar, a door would be opened for a greater balance and stability to be established in the world.

CALENDAR PICTURES AT THE PLANETARIUM

By PROFESSOR WILLIAM H. BARTON, JR.

Executive Curator, Hayden Planetarium, New York City

EIGHTEEN oil paintings telling the story of the various calendars worked out by man for the systematic ordering of his life and activities have been placed on exhibition in the Hayden Planetarium of the American Museum of Natural History in connection with the September presentation of "Sky Clocks and Calendars."

These vivid and interesting paintings supplement the showing in the artificial Planetarium sky of how man always has been and always will be dependent on the movement of the heavenly bodies for an accurate reckoning of the years, the seasons, the months, days and hours.

The pictures trace the development of the calendar through the ages from the day of the lunar calendar to the modern proposal to adopt a perpetual World Calendar which will substitute a uniform year of equally divided time-units for the varying inequalities of the present Gregorian system.

These paintings were executed by artists of the New York Museum of Science and Industry for The World Calendar Association. Slides made from the paintings are being incorporated in a World Calendar exhibit at the Museum in Rockefeller Center.

EMPEROR AND POPE

By GEORGE KENT

***B**Y means of the Time Machine, the two great men of calendar reform, Julius Caesar and Pope Gregory XIII, meet in New York City and inspect the wonders of the 20th Century. They are standing atop the Empire State Building talking quietly as the reporter tiptoes to within earshot and begins taking notes of their conversation:*

CAESAR: It's a great place for a visit, but I don't think I'd like to live here.

GREGORY: I'm not so sure. That thing they call radio, for example. Think of being able to talk to millions—one man's voice heard around the world. What influence! I'd put up with the noise and the smells if I could have it.

CAESAR: Don't get me wrong. They've accomplished miracles. How long did it take me to get to England back in the year 55? With a plane, I could get there in a few hours. But. . .

GREGORY: And how they have learned to cure people of smallpox and plague and all the maladies that used to kill us off by the thousands!

CAESAR: Yes, it's true, Greg, old boy, but. . .

GREGORY: The babies come into the world robust and hearty, and they *live*, all senses keen, their minds alert. In my day, only the fortunate and those who were exceptionally strong survived.

CAESAR: Will you listen to me? You're just a child comparatively—compared to me, I mean. And being young, you're naturally inclined to be optimistic. How about the calendar?

GREGORY: Well, I'll tell you.

CAESAR: *I'll tell you.* When I was running things back in Rome, I took a look at the calendar one day and saw it was cock-eyed. "A calendar to be worth anything has to go by the sun," I said. So I fixed it up and, by Jupiter, it was a good job—and it lasted.

GREGORY: Yes, you did, Julius, even if you were a little off in your calculations. By the time I got hold of things, your year was ten days off, and it cost me plenty of gray hairs before I adjusted it to run as it should.

CAESAR: I'm not denying it. What I'm saying is that I fixed up the calendar, and you fixed up the calendar—and now look at it. It just doesn't fit in this century. These people build airplanes, radios. But for some crazy reason, they leave the calendar alone.

GREGORY: I made the same observation. It's incongruous. Perhaps the fault is ours. We could have arranged the sequence of days and months with some kind of symmetry.

CAESAR: Tosh! One man can't think of everything.

GREGORY: It would have been better, though. Think of the troubles they have because of their inertia, their failure to pace the year in time to their speedy and complex lives.

CAESAR: Look at their Easter, one of their great feast-days. *You* might have done something about it. *You* had Easter. All we had in Ancient Rome was a great Spring festival. Anyhow, Easter hops about the calendar like a hunted hare and no one knows from one year to the next on what day it will fall, even though trade and the exchange of vast quantities of gold are involved.

GREGORY: No day in the calendar is secure. In our day it did not matter so much, but now a man never knows on what weekday his birthday will fall, on what day an important assembly will meet.

CAESAR: I'll tell one. They pay taxes quarterly on the 15th day of March, June, September, December. This day falls on a different day of the week, each year, and sometimes it falls on a Sunday, which is their Sabbath, as you know, and all the people rest. So, a special announcement has to be made, informing the taxpayers that they have until the night of the following day, Monday, in which to pay. Cock-eyed!

GREGORY: How much better it will be when The World Calendar is adopted!

CAESAR: World Calendar? Never heard of it.

GREGORY: When that is adopted, as I was saying before you made your last crass statement. . . .

CAESAR: Crass my eye. If you weren't so young in our world's history, I would. . . .

GREGORY: Gently, my son, do not let us quarrel, Julius. This is a pleasure trip.

CAESAR: Yes, you are right. What were you saying?

GREGORY: Well, in The World Calendar, the weekday is tied permanently to the month-day. The 15th of the quarter months of March, June, and so on, falls on a Friday. And Friday, being the day on which most of the people receive their wages, is a most convenient day on which to pay the tax. (Thank heavens, *I* don't have to worry about taxes.)

CAESAR: You mean that they're actually getting up the courage to make a change?

GREGORY: And a mighty good change, too. We should have thought of it ourselves—you and I. A lot of nations have approved it, and many important groups of thoughtful men and women in the United States and other countries are going on record as favoring a change. I think its adoption is only a question of a few years.

CAESAR: Let's have it. What's it all about?

GREGORY: It's simple, as plain as the nose on your face.

CAESAR: Keep my nose out of it.

GREGORY: It involves first a shifting of six days only. Think of it as compared to my dropping ten days! February will have 30 days, March 30. April will get 31, May 30, and finally December offers its last day as a World-Holiday.

CAESAR: Where does that get you?

GREGORY: It gets you, to use your crude locution, a year with four quarters that are identical. Each has 91 days and each begins on a Sunday and ends on a Saturday. So too, the year begins on a Sunday and ends on a Saturday.

CAESAR: Something's not quite straight here. You say each quarter has 91 days. Heck, that gives you a year of 364 days. You're one day shy, Greg, old thing.

GREGORY: Oh, that's taken care of by an intercalary day—a day on a double weekday with a special name. It comes at the end of the year and will be called *Year-End Day* and be devoted to prayers and festivities in all nations in all corners of the world to celebrate peace. Peace Day, it may eventually be called.

CAESAR: A lot these people know about peace. How about Leap Year?

GREGORY: That calls for another intercalary day which will be inserted between the last day of June and the first day of July, in the middle of the year.

CAESAR: Will that also be devoted to peace?

GREGORY: That is yet to be decided.

CAESAR: At that, the idea has possibilities. This calendar won't change from year to year; every feast-day will be fixed. People will be able to do some planning, knowing where dates will fall. The statisticians will be able to make more accurate comparisons. Everything will be a lot simpler. Why didn't I think of it, darn it!

GREGORY: Hush! Once a soldier, always a soldier.

CAESAR: But this World Calendar is perfect, exactly what these moderns need. I can think of a thousand advantages. The day of the week for the first time will be recorded and known, with the date and month and year. It's that easy.

GREGORY: Yes, it is. All annual events will be simple to plan in advance, church festivals as well as sporting and cultural events. Week-ends will be fuller and longer because under the new arrangement, more holidays will fall on a Monday and so, business men and women will have not only Saturday and Sunday, but Monday as well.

CAESAR: I see an even more convincing reason for welcoming this greatest of all calendars. . . .

GREGORY: Speak up, what is it?

CAESAR: It may seem a trifle out of keeping for me, a military man, to

talk this way. But long ago, I saw the hollowness of war and its so-called glories. I want no more of it. The world needs friendship, bonds that will link nation to nation in amity, spiritual and cultural ties. If we could increase the number of such ties, multiply those that exist a thousandfold, then perhaps we will have forged a chain that will hold fast against the forces that would rip them apart in the explosions of war.

GREGORY: Noble Caesar. And you feel that the calendar is one such tie, a force that can unite nations in such amity?

CAESAR: Yes, that's it. I'm for The World Calendar, and how about you?

GREGORY: I am just thinking and hoping that my successor will think as you and I do.

CAESAR: And wouldn't it be great if the leader of this vast western country would take a hand toward finishing what we two began?

Static rumbles in the Time Machine, and Julius Caesar and Pope Gregory fade away from the roof of the Empire State Building, leaving the reporter oblivious to the chilliness of the night air. "By Jove, I have had a glimpse of better and more stable days to come." Then silently he wanders to the elevator.

STATISTICS AND THE CALENDAR

The Board of Trade Journal, London, February, 1940

EDITOR'S NOTE: This interesting example of the complexities of matching years and their sales records is significantly featured in the British Government's official trade paper.

IN COMPARING sales figures for individual concerns with the published results, it should be remembered that retailers use a variety of accounting periods and also that the number of selling days in any calendar month varies from year to year. Returns have, therefore, to be adjusted to some extent in order to render the sales for 1938 and 1939 comparable when combined into districts or other totals. Almost all contributors now report regularly the number of days on which selling took place in their shops during the period to which their figures relate. On each return, therefore, the 1938 sales are corrected, where necessary, by the appropriate amount to make them comparable with 1939 so far as length of period is concerned. The number of selling days in the calendar month of December was one less in 1939 than in 1938, and accordingly corrections for differences in length of period were necessary on a number of schedules.

ODDITIES OF TIME MEASURES

By P. W. WILSON

From *Science Digest*, April, 1939

WAYS of measuring time are as numerous as they are picturesque. An American Indian would say that he was so many "winters" old or so many "snows." He would travel on a journey for so many "sleeps." Swedish peasants talk of the "rye-harvest" or the "potato-harvest" and, in Korea, the ripening of cucumbers has provided a rough and ready almanac. The Butaks of Sumatra measure time by intervals between smallpox epidemics.

The calendar has depended on four celestial bodies—the sun, the star, the moon and the earth itself. The rotation of the earth around the sun gives the year, the position of a star in the heavens (for instance, Sirius in Egypt) suggests a point in time from which to measure the year, the rotation of the moon around the earth gives the month, and the spin of the earth on its axis gives the day.

What primeval man noticed was the new moon. The question that he asked was how long a period of time would elapse before there was another new moon. In his elementary way he was thus calculating what we call the synodic month.

It is not so very difficult to understand the synodic month. Let us take a moment when the sun, the earth, and the moon are in the same plane. Then let us watch until these three are again in exactly the same relative positions—all of them in the same line as before. If we reckon up the interval that has elapsed between these two alignments, we shall find it has been 29.53059 days—that is, 29 days, 12 hours, 44 minutes, 29 seconds. This is the synodic month.

The synodic month is about two days longer than the other months. The moon proceeds on its minor orbit. But the earth also moves on its major orbit. The moon has thus to traverse more than 360 degrees around the world before it reaches a point of alignment with the sun. It takes the moon the extra two days to catch up with the advance of the earth.

The deeper we plunge into the past, the more numerous were the calendars. In Babylon, 4,500 years ago, there appear to have been local calendars corresponding to local dialects. In classical Greece more than a hundred calendars have been identified. Time was reckoned by the month as a basic unit, and the month as the word implies was determined according to the phases of the moon. It was with the naked eye that the moon was observed and a new moon—faint in the sky—was not always discerned on the same evening by people in different places. The same calendar might thus be variable in application. And in periods where sacred observances

were regulated according to the calendar, the confusion was regrettable.

A calendar enumerates exact days which we divide into 24 hours. In no calendar is it possible to deal conveniently with fractions of days. Yet there is no precise number of exact days either in the lunar month or in the solar year. A month contains approximately $29\frac{1}{2}$ days. A year contains about $365\frac{1}{4}$ days. In both cases a fraction intrudes itself.

In widely separated communities the same device has been applied to the adjustment of the lunar month. Six months of the year consisted of 30 days—the other six of 29, so providing for an average of $29\frac{1}{2}$ days—the length of the lunar month. No less simply can the solar year be adjusted. That year consists of $365\frac{1}{4}$ days. Let it be reckoned as 365 days and let an extra day be added every fourth or leap year.

It is when we try to adjust the lunar month of $29\frac{1}{2}$ days to the solar year of $365\frac{1}{4}$ days that difficulties arise. Twelve lunar months of $29\frac{1}{2}$ days make a period of 354 days which is $11\frac{1}{4}$ days short of the solar year, and 13 lunar months make a period of $383\frac{1}{2}$ days.

We can retain the rotation of the earth as a measurement of the day. We can retain the orbit of the sun as a measure of the year. But we can reject the orbit of the moon as a measure of the month. We can arrange months in the year according to our own convenience. In the story of the calendar that verdict of history is reflected. About B.C. 3000 the minds of Babylon and the minds of Egypt came to grips with the same problem of chronometry. The trouble with the Babylonians was that they were conservatives who clung to the lunar month.

No amount of astronomy would alter the fundamental discrepancy between the lunar month and the solar year. There was no way of reconciling this discrepancy save a resort to intercalation, and the intercalations may be described as orgies of irregularity. Before the reign of Darius, the priests advised the king when an extra month was needed and this month was duly inserted. Later, there was an endeavor to regulate the intercalations according to cycles. From B.C. 528 to 505 the cycle was eight years. From 504 to 383 it was 27 years. From 382 onwards, it was 19 years.

At a very early period the Egyptians adopted the solar year. They reckoned that the solar year contained 365 days. The Egyptians adopted 12 equal months of 30 days, and these months accounted for 360 days.

But there remained five days which had still to be accounted for. They were inserted between calendar days. Between the end of one year and the beginning of the next, there was a five-day interval. The five days were the more fully appreciated because they were holidays.

In the Egypt of our own day, the Coptic Christians perpetuate the old Egyptian language in its literature and ritual. The Coptic calendar still consists of 12 months of 30 days, with five extra days to make the year even. The Coptic calendar is used also in Ethiopia.

The solar year is $365\frac{1}{4}$ days. The Egyptian year was 365 days. The discrepancy, then, was approximately six hours. Gradually it was realized that spring was advancing into summer, and summer into winter. The beginning of the year, which ought to have coincided with the rising of Sirius and the inundation of the Nile, was in fact weeks ahead.

If the Egyptian year and the solar year differed by a slight discrepancy, it follows that, every so often, the two years would work round to agreement. Hence, 1,460 sothic or solar years equalled 1,461 Egyptian years, and this period is known as the Sothic Cycle.

The philosopher and mathematician Censorinus in A.D. 238 compiled a treatise *De Die Natali* which deals with the birth of man, the influence of stars and genii on his destiny, and the measurement of time. It is to Censorinus that we are indebted for one fact of capital importance. In A.D. 139 the first day of the Egyptian calendar, based on 365 days to the civil year, coincided with the heliacal rising of the star Sirius. In other words, in A.D. 139 one Sothic Cycle ended and another began.

The point is that the Egyptian calendar must have been initiated in a year when a Sothic Cycle was beginning—when, that is, New Year's Day coincided with the rising of Sirius. The origination of this calendar could not have been as recent as B.C. 2781.* Hence, it appears to have been at least as ancient as B.C. 4241,* the oldest ascertained date in history.

The axis of the earth, as a spinning top, moves similarly around an imaginary cone. The result of the gyration is an astronomical variation which has a direct bearing on the measurement of time, and especially of long periods. It is known as the Precession of the Equinoxes. More popularly, it means that the North Pole does not always point to any particular star. Pole stars only hold office for a period.

This slow movement within the celestial clock has affected the pyramids and temples of Egypt. The archaeologist has discovered that they were planned according to the points of the compass. But the temples of different dates do not face in quite the same direction, and one of them, Karnak, is slightly out of line with itself. What is the meaning of such an apparent error of which the Egyptians themselves were unconscious?

As we have our Pole Star that determines the north, so had they, nor did they realize that the true north moves slowly in a circle around the stars. It is a gyration that is completed in 25,800 years—a period far exceeding the span of history, yet short enough to serve as a standard for measuring time by centuries and millennia. This movement of the true north—the Precession of the Equinoxes—enables us to estimate the age of the Egyptian edifices that are affected by it.

The Christian Era, as we know it, emerged out of much medieval com-

*EDITOR'S NOTE: In *Time and Its Mysteries*, Professor Breasted has amended these dates to read B.C. 2776 and B.C. 4236.

plexity. The Spaniards had a Christian Era that dated from A.D. 38. In A.D. 1180, the official use of this Spanish Era was abolished by the Council of Tarragona but in Portugal the era continued until the 15th Century. It was in the 15th Century that the Greeks adopted the Christian Era.

In 1518 the famous expedition of Cortes against Mexico was organized. On achieving their conquest the Spaniards were amazed to discover that the Mayans were acquainted with the science of measuring time. Indeed, their chronology agreed precisely with European chronology save for a discrepancy of about ten days. The discrepancy was due to an error, but not in the Mayan calendar. It was the error in the Julian calendar subsequently corrected by Pope Gregory XIII.

The accuracy of the Mayan calendar was due to an even more remarkable circumstance. Their year was the same as the year of the Egyptians, dwelling in the Nile Valley on the other side of the world. In Mexico there were 360 days divided into months, and five extra days that belonged to no month. These days were regarded as unlucky. In those days people hesitated to start on a journey, and to hew wood in forests where wild beasts were a danger. Housewives left the home unswept and made no pottery. Alas for the child born within the five days!

In the year A.D. 1091, the Mexicans had reformed their calendar. Like the Egyptians they had to deal with the quarter of a day in excess of the 365 days which completes the solar year. Apparently they did not intercalate a day every four years as we do. They are believed to have waited for what they called "a bundle" of 52 years—indicated by sheaves of reeds—and then intercalated 13 days or, according to some conjectures, $12\frac{1}{2}$ days—that is, 25 days described as "an old age" of 105 years.

Divisions of the day began long ago to be arranged according to some kind of orderly sequence. The Pyramid Texts show that in Egypt a day of 12 varying hours was observed in the fourth millennium B.C. Babylonians divided the day into six periods and the night into six periods. The origin of the number 60 as applied to minutes within the hour and seconds within the minute is attributed to Egypt.

Unfortunately, solar days of 24 hours are not uniform. Some are longer, others are shorter. Here we encounter one of the most beautiful of all mathematical laws. It is associated with the name of the great astronomer Johann Kepler.

Suppose that a planet is moving around the sun in an elliptic orbit. Sometimes it will be nearer the sun, sometimes further off. When the planet is nearer the sun, then—Kepler showed—it puts on pace. When it is further away from the sun, it slows down. And this is true of the earth. When near the sun it moves more quickly than when it is further off, and this means that strictly solar days and solar hours of the day vary slightly in length.

Another and more subtle correction has to be made. The equator of the earth lies in a plane which is not the plane of the earth's orbit round the sun. This means that when the earth revolves one-twenty-fourth of the daily gyration around its axis, the shadow of the sun does not, as a rule, pass one-twenty-fourth of the way—round the face of the dial.

What is our conclusion? Mean time and solar time accomplish the same year. But solar time is either faster or slower than mean time at all save four dates within the year, and this explains the trouble with the sun-dial. On four days, April 15, June 13, September 1 and December 24, it agrees with the clock. On all other days there is a discrepancy in which the sun-dial is fast or slow. In November the difference attains a maximum of 16 minutes 22 seconds.

INERTIA AS AN OBSTACLE

From the London Churchman

In this article, the editor of the great popular organ of the Church of England declares that progress of calendar reform has been slow because of the inertia of certain nations. The plan most widely favored, he points out, is that known as *The World Calendar*: "indeed, other proposals may now be regarded as obsolete." Apathy is the present obstacle. The extraordinary effects of apathy among masses of people, leading them to put up with inconveniences which might easily be remedied, are illustrated in this article by a reference to Dickens, who pointed out that the British Treasury continued to use wooden "tallies" for accounting purposes until well into the last century, notwithstanding the invention of pens, paper and slate pencils—in fact, until the accumulation of dried sticks caught fire and burned down the Houses of Parliament.

WITH all deference to Mr. Herbert Spencer and the metaphysicians who tell us that we cannot predicate either limitation or absence of limitation of space and time, mankind must deal with time as something fixed and capable of being recorded and subdivided. Hence calendars.

Our ancestors got their time from the sun and the stars, which served them well enough. Their only way of determining approximately the time of day was by the position of the sun in the daytime and by the position of the stars by night. Instead of asking, "What time is it?" an early Greek might say, "What star is passing?" Alfred the Great had no clocks or watches, but could tell the time of day by means of candles constructed so as to burn approximately for four hours.

The method of keeping time by means of the pendulum clock was given to the world by the young Galileo, who sat in the cathedral at Pisa timing the vibrations of the chandelier which hung from the roof by holding his finger on his pulse when he should have been attending to the services.

Most modern people who live by the clock are unaware of any disagreement between the time of day as announced by the sun and as shown by the clock; but it is only rarely that the two agree. A day may be defined as the interval required for the earth to complete its rotation on its axis. This rotation is determined with reference to an imaginary mean sun, defined so that all the days are of equal length and that such length is equal to the *average* length of the days when the true sun is used as the body of reference. The day, the month and the year are based on earth, moon and sun, and the use of the calendar is to combine these for the purposes of civil and religious life.

Some six thousand years ago the Ancient Egyptians abandoned the moon and took the sun as a more reliable guide, because upon it depended the recurrence of the seasons, regulating the vegetation of the earth. They marked a year of 360 days with five days added to the end, observed as a holiday.

This calendar is still used by the Copts. In 45 B.C. Julius Caesar adopted a civil year of 365 days with an extra day for each fourth year to make up for the additional quarter of a day in the solar year. In 321 A.D. Constantine, converted to Christianity, introduced a new time-unit, the Biblical seven-day week.

For 16 centuries the Julian calendar was in use throughout Europe, but the solar year had been inaccurately calculated, being too long by 11 minutes and 14 seconds. Thus the date of the spring equinox fell earlier and earlier in the year, and it was evident that the calendar moon and the moon of the heavens no longer coincided. Easter was being celebrated too late, and in time would have been kept, one, two, or three months after the astronomical date. Pope Gregory XIII, who introduced the calendar we now use, dropped out 10 days from the month of October, 1582, reckoning October 5 as October 15, his object being to restore the equinox to March 21, the date on which it fell at the time of the Council of Nicaea in 325 A.D.

The extraordinary apathy which leads people to put up with inconveniences which might easily be remedied was humorously noted by Dickens. He instances somewhere the fact that the old exchequer *tallies* were still in use well into the last century notwithstanding the invention of pens, paper and slate pencils until the accumulation of dried sticks caught fire and led to the burning down of the Houses of Parliament.

A convenient summary of the inconveniences of the present calendar may be found in "Dates and Days," a pamphlet issued by the Rational Calendar Association of London. Every year the whole almanac is completely changed. Neither the months, the quarters, nor the half-years are comparable with one another. A month may consist of 28, 29, 30 or 31 days. The first quarter of the year contains 90 days (91 in leap years), the second quarter 91, and the last two quarters 92 days; one half-year is three days longer than the other. The year is not exactly divisible into weeks; dates, therefore, never fall on the same day from year to year. The same month in different years may contain four Sundays or five. In consecutive months the number of weekdays always varies. Sometimes there are 52, sometimes 53 pay-days, sometimes two Easters in the fiscal year, and payments of interest, dividends and rents, and currency of bills of exchange and the terms of legal contracts are greatly complicated by the want of a fixed year. The banks have to use elaborate special tables in order to make accurate calculations in current accounts, and the work of accountants, auditors and Treasury officials is unnecessarily magnified by the universal irregularity. For intelligent social planning, accurate statistics are essential, and an increased uniformity in trade, commerce, sociology and economics is desirable.

Moved by these considerations, a committee of the League of Nations took up the matter in May, 1924, and there have been a number of subsequent discussions; but owing to the inertia of some of the nations, progress has been slow. The plan most favored is known as The World Calendar; indeed, other suggestions may be regarded as obsolete.

Under this proposal there would be a "Perpetual Calendar." The year of 364 days would be made up of four equal quarters, each of 91 days or 13 exact weeks, each beginning on a Sunday and ending on a Saturday, and each containing three months of 31, 30 and 30 days, respectively. This would simplify calculations for ascertaining the day of the week on which any given date falls: the same date would in different years fall always on

the same day. Every quarter has the same number of days, every month has the same number of weekdays. This reform necessitates the introduction of a "supplementary" day in ordinary years, and two supplementary days in leap years. It is proposed that these shall be international holidays, the first "year-end" day lying between December 30 and January 1, the second in leap year between June 30 and July 1.

The stabilization of Easter is no necessary part of a perpetual calendar; but it is very desirable that the two should be introduced together, for the wandering Easter gives rise to numerous disadvantages in the civil sphere. School, university and judicial work and commercial interests, particularly those relating to transport, are adversely affected. Probably few ever come to understand how it is that Easter wanders about over a period of 35 days, or grasp the "Tables and Rules" in the Book of Common Prayer, which, abstruse and cumbersome though they are, give only some partial explanations.

All are familiar with the nursery rhyme which recalls the number of days in the months: "Thirty days hath September, etc.," but few are familiar with the *memoria technica*, which lessen the labor of finding the Dominical Letter and the day of the week. The following canon serves to find the Dominical Letter:

Divide the centuries by four, and twice what does remain
Take from six; and then add to the number you gain
The odd years and their fourth; which dividing by seven
What is left take from seven, and the letter is given.

And the "Three Worthies of Dover" gives the clue to the day of the week:

At Dover Dwells George Brown, Esquire,
Good Christopher Finch And David Fryer;

where the 12 words personate the months and the initials are in the order of the Dominical Day for the first of each month. To determine the weekday of one's birth (and few know it) with the aid of this doggerel is a pleasing variation from a cross-word puzzle.

It was hoped by reformers that the change to The World Calendar would have been made in 1939, when January 1 was a Sunday and Easter on April 9 synchronized very closely with the date of the Crucifixion, now commonly accepted as April 7 (Julian).^{*} Thus Easter would be fixed in April, and the festival of the Annunciation (Lady Day) would never fall on the same day as Passion Sunday.^{**} The fixing of Easter has been accepted in principle in Great Britain by the passing of the Easter Act of 1928; but the Act has never been put into operation because the general assent of all Christian communions is required to make it practicable.

EDITOR'S NOTE: ^{*}30 A.D. ^{**}Passion Sunday, March 24; Annunciation, March 25.

INDEPENDENCE DAY CHANGE

By CHARLES C. SUTTER

Director, The World Calendar Association

INDEPENDENCE DAY, or the Fourth of July as it has become popularly known, would be permanently stabilized on a Wednesday in the proposed World Calendar. However, were a week-end celebration to appeal to the American people during this vacation month, Independence Day could well be advanced by two days to Monday, July 2.

Historical fact would sanction such a change, for the Continental Congress adopted on July 2, 1776, the resolution offered by Richard Henry Lee of Virginia, that "these United Colonies are, and of right ought to be, free and independent." This resolution was in essence the Declaration of Independence. The full resolution, taken from the Journal of the Continental Congress of 1776, follows:

"Resolved, That these United Colonies are, and of right ought to be, free and independent states, that they are absolved from all allegiance to the British Crown, and that all political connection between them and the State of Great Britain is, and ought to be, totally dissolved.

"That it is expedient forthwith to take the most effectual measures for forming foreign Alliances.

"That a plan of confederation be prepared and transmitted to the respective colonies for their consideration and approbation."

John Adams was so firmly convinced that July 2 would be the national Independence Day that he wrote, in part, in a letter to his wife:

"The Second of July, 1776, will be the most memorable epoch in the history of America. I am apt to believe that it will be celebrated by succeeding generations as the great anniversary festival. It ought to be commemorated as the day of deliverance, by solemn acts of devotion to God Almighty. It ought to be solemnized with pomp and parade, with shows, games and sports, guns, bells, bonfires and illuminations, from one end of this continent to the other, from this time forward, forevermore. You will think me transported with enthusiasm, but I am not. I am well aware of the toil and blood and treasure that it will cost us to maintain this Declaration and support and defend these States. Yet, through all the gloom, I can see rays of ravishing light and glory. I can see that the end is more than worth all the means. And that posterity will triumph in that day's transactions, even although we should rue it, which I trust God we shall not."

The Lee resolution was originally moved and seconded on June 7, and the consideration of it was postponed until the next day when it was debated in committee of the whole, but no action was taken. The resolution was reconsidered Monday, June 10. On that day the committee of the whole resumed its debate and at its conclusion submitted to the Congress the following resolution:

"Resolved, That the consideration of the first resolution be postponed to this day, three weeks, and in the meanwhile that no time be lost, in case the Congress agree

thereto, that a committee be appointed to prepare a declaration to the effect of the first of said resolutions, which is in these words: 'that these United Colonies are, and of right ought to be, free and independent states; that they are absolved from all allegiance to the British Crown; and that all political connections between them and the State of Great Britain is, and ought to be, totally dissolved.'"

The next day there was appointed a "committee of five" to draft a proposed declaration based on this resolution, under the chairmanship of Thomas Jefferson. John Adams, Benjamin Franklin, Roger Sherman and Robert Livingston completed the committee. Seventeen days later, on June 28, this committee submitted a draft of what has come to be known as the Declaration of Independence. It was then read and tabled.

Congress, on Monday, July 1, again considered the Lee proposal and, after a debate of the committee of the whole, postponed action for a day. This resolution mentioned in John Adams' letter was the conception of the Declaration of Independence. The Congress adopted the Lee resolution the next day, July 2, by a vote of 12 States. Ten States voted unanimously; New York did not vote; Pennsylvania and Delaware cast divided ballots (three votes in the negative). The formal Declaration of Independence, reported by the "committee of five" under Thomas Jefferson on June 28, was then considered by the committee of the whole on July 3 and July 4, when it was decisively adopted. Contrary to general opinion, the signatures were not affixed on the fourth, as most of the delegates signed it by August 2. Fifteen signatures were added later in the year.

The people of Philadelphia on the following Monday, July 8, 1776, were the first to celebrate the adoption of the Declaration by a mass meeting in Independence Square. On July 9, the Declaration was promulgated to the army in general orders by General Washington.

There is no record of how the anniversary of the adoption of the Declaration of Independence came to be celebrated; but a year later, on July 2, 1777, it occurred to someone in Philadelphia to arrange for a celebration dinner, and Congress adjourned on that day. John Adams, who seemed to be a prolific recorder of the events of his day, writing to his young daughter, described the scene that took place in Philadelphia. Great bonfires were lit in the streets and fireworks were set off in the evening, while bells tolled all day long and in the river warships were dressed with flags and at one o'clock companies of men were drawn up on the decks. Mr. Adams accompanied by the President of the Council and other gentlemen went aboard the "Delaware" and were greeted by a salute of 13 guns from each ship in succession, with music furnished by "a band of Hessians taken at Trenton." The dinner was served at a local city tavern at three o'clock. After dinner there was a parade of soldiers in the city. Mr. Adams on taking his evening exercise was "surprised to find the whole city lighting up their candles at the windows. I walked most of the evening and I think it was the most splendid illumination I ever saw; a few surly houses were

dark, but the lights were very universal."

In 1788 a more elaborate celebration was held in Philadelphia when it was known that the United States Constitution had been adopted by the requisite number of States. The document provided that "The ratification of the conventions of nine States shall be sufficient for the establishment of this Constitution between the States so ratifying the same."

The initiative action of July 2, was later to be quite forgotten in favor of celebrating the Fourth, the actual day the Declaration of Independence was approved and published to the world. The celebration of the Fourth of July thus became permanently stabilized and gradually spread through the country as new States and Territories were added throughout the Union, until at the present time it is a holiday in every State and Territory.

Boston did not celebrate the day until 1783, since it had been in the habit of celebrating March 5, the anniversary of the Boston Massacre. Accounts of the celebration in 1810 among other cities have been preserved. In New York by order of the city government salutes were fired. In Washington an oration was delivered by Robert Polk in the Baptist Church near the White House. In Richmond, Virginia, the formal celebration was limited to a parade and a dinner.

With the passing of years, the use of fireworks in the celebration of the anniversary became general and the day served for various purposes. In New York, Governor DeWitt Clinton turned the first sod for the digging of the Erie Canal in 1817. In 1828, Charles Carroll, the last surviving signer of the Declaration of Independence, broke ground for the building of the Baltimore and Ohio Railroad, the first railroad in this country. John Fremont in 1846 declared California free and equal. In 1850, in Washington, the cornerstone of the Washington monument was laid. In New York City in 1856 a statue of George Washington was unveiled in Union Square. The stars of the 47th and 48th states, New Mexico and Arizona, were added to the American flag in 1912. And in 1919 the foreign governments associated with the United States in the World War arranged a celebration in Washington. The face of George Washington carved by Gutzon Borglum on Mount Rushmore, South Dakota, was unveiled in 1930.

Quaint customs have prevailed throughout the country in celebrating the Fourth of July. Quite frequently there were two parades; in the morning a burlesque parade of men and boys dressed in fantastic costumes, and in the afternoon that of the military. In Greeley, Colorado, beginning in 1922, there was held what came to be called the Annual Greeley Spud Rodeo and Fourth of July Celebration, which attracted visitors from neighboring counties and at which contests of all sorts were held.

In our present calendar Independence Day would still continue to wander throughout the week. But the new World Calendar would remove all such uncertainties and vagueness. It would make possible the celebra-

tion of Independence Day always on Monday, July 2, or on Wednesday, July 4, if the nation still desires to cling to the "Fourth." Other holidays with definite dates can be advanced to preceding Mondays, if desired. Holidays in the United States under The World Calendar follow:

New Year's Day, Sunday, January 1
 Washington's Birthday, Saturday, February 11
 Lincoln's Birthday, Sunday, February 12
 Memorial Day, Thursday, May 30, or Monday, May 27
 Leap-Year Day, Extra Saturday, World-Holiday, June 31 or L
 Independence Day, Wednesday, July 4, or Monday, July 2
 Labor Day, Monday, September 4
 Columbus Day, Thursday, October 12, or Monday, October 9
 Election Day, Tuesday, November 7, or Monday, November 6
 Armistice Day, Saturday, November 11
 Thanksgiving Day, Fourth Thursday, November 23, or Monday, November 27
 Christmas, Monday, December 25
 Year-End Day, Extra Saturday, World-Holiday, December 31 or Y

Monday holidays are desirable but unless the calendar itself is stabilized first, every year the same, any stabilization of holidays is but wishful thinking. The cart cannot be put before the horse.

CALENDAR REFORM AND A FIXED EASTER

By J. R. Foster, In *The Modern Churchman*, Oxford, England, April, 1940

IT may be true that the fixing of Easter cannot be separated from a reform of the calendar, but it does not follow that reform of the calendar cannot be separated from the fixing of Easter. In the 16th Century the date of Easter and calendar reform were aspects of one and the same problem, because, owing to the accumulation of small errors, there was obvious disagreement between the records of the calendar and the sun, which in 1581 seriously upset the date of Easter. The correction of these errors has turned the problem into two: to meet the demand of the business world for a reformed calendar and the popular demand for fixing the date of a spring holiday in April, and though this is generally voiced as a demand for a fixed Easter, neither has any necessary connection with the Church festival.

The association in the public mind of calendar reform with a fixed Easter is due to the action of Parliament in 1871 in linking the bank holidays with the Church festivals, a fortuitous and quite unnecessary connection. Parliament was concerned with the establishment of annual holidays to be spaced at the most convenient intervals, and the dates should have been decided solely on this consideration. The unfortunate consequence is that calendar reform is being held up because this connection involves the dates of religious observances and has given rise to objections on the part of the Roman Church and of the Jewish community, though there is no reason why these should not freely observe days of their own choosing under a reformed calendar. The Jewish objection was expressed by the Chief Rabbi some time ago in a letter to the *Times*; it arises out of the proposed insertion of intercalary days, which is supposed to involve a change in the regular sequence of the seventh-day Sabbath. It is difficult to see why the insertion of New Year's Eve as a *dies non*, involving changing the Sabbath from Saturday to Friday for 12 months, should be unwelcome to the Jews.

If the problem of the reform of the calendar were dissociated from the fixing of Easter, no Christian religious observances would be involved and a reconsideration might remove the Jewish prejudices; calendar reform would then have some chance of attaining early success.

A DIARIST LOOKS AT TIME

By CLARE W. HARRIS

HAVE you ever noticed that among the many dual classifications into which individuals can be grouped, there is one that has escaped general recognition; people who are *space-conscious*, and people who are *time-conscious*? Of course these two classes suggest extremes that seldom exist in reality, but like blond and brunette, good and bad, tall and short, introvert and extrovert, they do definitely represent trends in diverse types.

We are all familiar with the person whose sense of direction seems definitely a sixth sense, but upon whom the passage of time registers but lightly. In contrast we know of punctual, time-conscious people who can awaken without an alarm or guess to within a few seconds the duration of a definite period of time; but who are completely lost once they have turned a corner or two in space.

Were we mentally capable of the true space-time concept of Einstein, calendars and maps would be quite superfluous! Unfortunately we are not. We must have maps and calendars. The former can be made minutely accurate, and there seems to be no objection to printing new additions and corrections as soon as the facts are known.

With the calendar the situation is slightly different. True, the same exact, scientific data are there, but new psychological factors enter in; factors that tie up with customs, habits, emotions. If a map is inaccurate, scientific exactitude can prove it so, and there are no pious or prejudiced scruples against correcting it. If the calendar is not orderly or systematized, that is adjudged a matter of personal opinion. Too, the fact that our days (based on the rotation of the earth on its axis), our months (on the moon's phases) and our year (on the revolution about the sun) are not mathematically concordant, makes their convenient adjustment a matter of expediency, and the situation always gives rise to conflicting opinions.

Perhaps no one can find a *best* way, but there always seems to be a *better* way. Man's difficulty is his reluctance in relinquishing what, through habit and sentiment, has seemed good enough. The calendar is too intangible for many people to comprehend clearly. It is a concept, much more figurative and less literal than a map and people have a way of objecting to changes in their concepts. As should be, it is now presented more in the light of a modern, practical invention; a *thing* as concrete for time as a map is for space.

Diarists are time-conscious people. Past, present and future! What

magic in their contemplation! I have kept a daily diary for 35 years, and am well aware of the pleasure of visiting mentally the scenes of long ago, whether they be gay or sad. If the former, it is naturally a pleasure to relive them in thought, if the latter, the present compares favorably.

To the statistical and systematic mind of the diarist there is an annoyance in reading back to see what one did 3, 7, 16, 24 years ago, and to discover that the references can hardly be comparable. Although a definite number of years ago from the entry date, yet no two weekdays correspond! One is inclined to compare the dates by the years and months, and yet the routine of daily life makes the weekly comparison more desirable. On September 7, 1908, I was on vacation: on the same monthly date four years later, Labor Day had passed. I was at work, and the same two dates were not comparable.

The proposed World Calendar seems to me to possess all the virtues of the present calendar and none of its vices, plus the advantage of as near an orderly perfection as it is possible to obtain under natural limitations. Personally I cannot understand any sentiment for a human, arbitrary system after it has outlived its usefulness. The calendar has been altered before to fit changing, human needs, and to correspond more accurately with man's growing conceptions of the Universe; why should it not now be changed so that it conforms to the last word in science and human efficiency?

A diarist is well aware of the lesson taught by the ingenuity of the calendar in its attempt to minimize temporal difficulties which were for ages seemingly insurmountable. The coordination of the rotation of the earth, its revolution around the sun, the phases of the moon and the necessity for a period of days within the month to be used as a unit, proved that man is capable of satisfactorily organizing his affairs within the bounds of Nature's edicts. Within his limitations of heredity and environment man may systematize his life. The result may be, figuratively, a calendar with five days left over in one place, a month three days shorter than the one next to it, or a well thought out, organized and functioning whole that serves its purpose most efficaciously. He rules life, yet paradoxically he obeys its laws implicitly.

This calendar, like those that have preceded it, may not prove the final word. Others may follow with increasing knowledge and observances that always lie before us. For nothing is static as everything progresses. It is the same attempt that is evident in all of life's struggles; to work as best we can within the limits that Nature has imposed upon us.

Diarists, though numerically a small group, are at least exceptionally time-conscious. I sincerely believe I voice the sentiments of each and every one when I advocate without reservation the adoption of The World Calendar.

NEW BOOK IN SPANISH

Reviewed by the REVEREND EDWARD S. SCHWEGLER, D.D.

ACTUALIDADES CIENTIFICAS. *Reverend Father Ignacio Puig, S.J.,
Buenos Aires, 1939.*

THE publication in Buenos Aires of a handsome little volume entitled *Scientific Actualities* by Father Ignacio Puig, S. J., serves to emphasize the fact that another priest-scientist is a solid advocate of calendar reform. Not that the volume treats extensively of this problem: it has only one chapter on the subject, but that chapter is positive, succinct, and authoritative.

Father Puig follows in the footsteps of many illustrious confreres in the famous Society of Jesus by having made a name for himself in scientific, and more especially in astronomical, fields. He is the Director of the important Observatory of San Miguel, in the Argentine Republic, and a member of the National Council of Observatories as well as of the Buenos Aires Academy of Sciences. And formerly he was professor of chemistry in the Institute of Barcelona and member of the Geodetic and Geophysical Council of Spain.

That Father Puig is held in the highest esteem by those who are acquainted with the man and his work may be gathered from the following remarks by the editor of the Buenos Aires *El Pueblo* in an introduction to the book:

"The learned Jesuit does not pour out a flood of erudition so as to terrify ordinary mortals. He does not use his learning as a battering ram to open a way before him through the world. He does not want trumpets blown at his passing. He is a living proof that true science is not pedantic: its high specific gravity does not permit the fatuous exposition of meaningless vacuities.

"The author of this work, which will be followed by three other similar productions, is a most worthy priest, an outstanding scholar, an indefatigable student, and a scrupulous and systematic worker, whilst at the same time humility, modesty, and prudence grace his character.

"Having spoken of his talents, let us add that this learned religious has not tried to hide his learning under a sterile bushel. He has not taken the life from his work by refusing to have it diffused. He has not buried the biblical talents.

"He has not written with his finger in the sands of the seashore, as have other authors of my country. He has tried to let the talent God gave him shoot out its rays to the utmost bounds of the land: he has multiplied his talents and made them illuminate many minds. He has looked for the best

possible means of disseminating his thought—for a vehicle that would be truly effective. And to this fact we owe it that the following articles first appeared in the columns of *El Pueblo*.”

The editor of *El Pueblo*, an Argentine Catholic daily, certainly has given an enthusiastic introduction to his contributor. Father Puig's book, it seems, is a collection of articles on scientific subjects that first appeared in this newspaper.

The book is naturally most diverse in its contents, treating of anything from the position of the sun to the astronomers of the Society of Jesus. But the chapter of immediate interest here is the one on calendar reform.

In this chapter Father Puig premises that he has long been interested in the problem of an improved calendar, and refers to various articles contributed by him to *Razon y Fe*, the review published by the Jesuits at Madrid.

Father Puig gives no references; but an independent search reveals that already in 1930 he was writing on the subject—for example, an article entitled “Los Proyectos de Reforma del Calendario,” published early in that year.

After thus reminding his readers of his familiarity with the question of calendar reform, Father Puig proceeds to list the inconveniences of our present calendar and to give a succinct explanation of The World Calendar.

In noting the difficulties about fixing the date of Easter he says: “A Church council (Nicaea, 325 A.D.) decided upon the day that should be observed for the celebration of Easter. It is only proper, therefore, that the same Church give its approval to a proposed new date: that it again decide what day should be kept.”

In concluding his brief article, Father Puig quotes as follows from the work of Father J. Santillana, S.J., which was being received, at the time the article was written, with much acclaim:*

“In this, as in few problems of human life, success or failure must depend on public opinion; and public opinion must be created by the infectious enthusiasm and forceful convictions of individuals. To make a modest contribution towards arousing such opinion was my only purpose in composing these lines. Brief and rapid though they are, they are filled with conviction and hope.”

Concludes Father Puig: “So say I at the end of this article, if it is possible to compare this brief production with a documented book of reference.”

**El Actual Calendario Juliano-Gregoriano y su Sensacional Reforma en el Año 1939*. J. Santillana, S. J., Buenos Aires, 1936. Cf. *Journal of Calendar Reform*, Vol. VII, p. 138.

CURRENT PRESS COMMENT

Chicago Support

Coldwater (Mich.) Reporter

Enlisting in the effort to get a more practical kind of calendar the Chicago Woman's Club has formed a World Calendar Committee. The Club, in taking up this campaign for calendar reform, is acting in accordance with the policy of the General Federation of Women's Clubs, which about a year ago adopted a resolution favoring a permanent World Calendar.

Evolution of the Calendar

New York Museum of Science and Industry's Exhibit News Letter

Would you like to save \$607 an hour? That is the amount recently estimated by a prominent radio news commentator as representing the cost to the tax-paying community of New York City, of our present method of measuring time by a calendar which varies from year to year. With each quarter beginning and ending on a different day of the week, with a varying number of days in the different months, with each month and each year beginning on a different weekday, the keeping of records, the gathering of statistics and the making of periodic payments present a tedious, complicated and costly problem which affects the business world probably more than any other unit of our social and economic system. The building industry alone, to cite a single important example, is said to blame the loss of millions of dollars annually directly on our present irregular calendar, and rarely does the production and profit-taking year of any industry coincide with the calendar year.

Benefits that it is believed business and industry, as well as all other departments of modern life, would derive from the adoption of a stabilized, uniform World Calendar, in which all quarterly periods are equal and end on the same day in every year, each month has the same number of days from year to year and all holiday dates are fixed, are strikingly presented and explained in the exhibit which The World Calendar Association installed in the Museum last year.

Leap Year

Chattanooga (Tenn.) Times

A simple remedy has been suggested by The World Calendar Association in the form of a calendar revision which has already been formally approved by 14 nations. The 12 months would be divided into four identical quarters of 91 days each. Every three months would be exactly alike. Obviously, if a person memorized the calendar for a quarterly period he would never have to look at a calendar again.

Approval by the Church

Chapel Hill (N. C.) Weekly

It is the modern-mindedness of the new Pope, Pius XII—his acquaintance with social and economic problems and his interest in the affairs of the workaday world—which encourages advocates of the proposed new calendar to anticipate that he will give calendar reform his support.

A few years ago the Holy See made the pronouncement that "no question of dogma is raised by the proposals for calendar reform." Most of the Protestant Churches have approved the new calendar, and the Archbishop of Canterbury declared in the House of Lords: "It is impossible to resist the plea for reform which comes from all the great organizations of commerce and industry throughout the world."

The present calendar is a chaotic jumbling of time-units, utterly incompatible with this age of speed and precision. The approved plan of reform is known as The World Calendar.

Pro and Con

Grand Forks (N. D.) Herald

Just why we observe Thanksgiving Day on Thursday has never been established. The first Thanksgiving Day, in 1621, was a Friday. Until 1863, it fell on various weekdays.

As it is now, the Thursday holiday practically ties up commercial activity for the balance of the week. The Monday holiday, it is agreed, would avoid this. The change is likely to have full approval of commercial and educational interests.

EXCERPTS AND REVIEWS

Russia Abandons Five-Day Work-Week

By G. E. R. GEDYE

In *The New York Times*, June, 1940

THE Workers of the Soviet Union were recently called on to sacrifice their five-day 35-hour work-week, and work a six-day work-week of 48 hours to speed armaments and defenses.

This was announced by the All-Union Central Council of Trade Unions. It was declared that in view of the war situation and intensified preparations by capitalist countries it was necessary for Soviet workers to intensify their efforts to strengthen the country by rushing more airplanes, tanks and other war materials.

The six-day week, introduced by the Revolution, will be suspended and the former seven-day week will be restored. Workers in branches working a six-hour day will be required to work seven hours; those now working seven hours will be required to work eight hours. The work-period of those working an eight-hour day will not be increased. "The international situation is full of unexpected possibilities of the war danger increasing for the Fatherland," says *Pravda*. "The seven-hour and six-hour labor day is not sufficient to solve the problems challenging this country." *Pravda* recalls that in the countryside the week always had seven days.

Catholic Church's Opportunity

By ABBÉ CHAUVÉ-BERTRAND

Eminent Roman Catholic Authority on the Calendar

THE question of calendar reform has progressed greatly since 1931. Its solution seems to be approaching maturity. One can now foresee that this reform will be accomplished, be it within a few years, or at a more distant time.

At every instant we are reminded in France that the clergy and the Catholics have not been at the head of the great problems which modern times present, that they did not know how to comprehend in time the recommendations of Leo XIII, and

that they are in part responsible for the apostasy of the masses of people, about which they now lament.

May there be no further occasion of this. The names of Julius Caesar, Sosigenes, Gregory XIII are justly famous because of reforms accomplished in past centuries, and they are honored everywhere, even in schools for children. A rare occasion is offered to the Papacy to lend its prestige to the new reform which, besides the advantages which it carries in itself, can become the point of departure for an inducement towards a federation of the Christian Churches, as well as for a liturgic and religious growth in the entire world.

Will the heads of the Churches let this opportunity escape them?

Child Development Research

By HARRIET ELIZABETH NEALL

In *Child Development*, Vol. 10, No. 4,
December, 1939

THE calendar is a basic tool in the field of child development. Calendar dates are used to compute the chronological age of a subject at the time of a given test or observation. Calendar dates are also used to compute the interval which has elapsed between two tests, a point of special importance in cumulative studies of development. Thus an essential item in almost every record is the date upon which the test or observation was made. The investigator may wish to control the time element by testing the child when he is of a specified chronological age, or by re-testing him at regular intervals of, for example, one month, six months, or one year. In this case, the arrangement of individual appointments for a group of subjects is an administrative task in which the calendar must be consulted constantly.

The confusing irregularities of the present Gregorian calendar are thus of significance to workers in the field of child development. An improved calendar, known as The World Calendar, is now proposed. Workers in the field of child development should give careful consideration to this calendar from the point of view of their own interests and needs. It

appears to offer the following advantages:

1. The initial recording of a correct date would be easier with a systematic, perpetual calendar.

2. The planning and making of appointments should be greatly simplified. Notice that a birth-date will always recur on the same day of the week year after year.

3. Intervals between tests could be more easily equated because the year is divided into equal quarters and all months have either 30 or 31 days.

4. The computation of intervals between dates should be simplified, especially if the exact number of days in the interval is required. The Year-End Day can easily be allowed for, but our present irregular months cause complication. The irregularity produced by leap year is found in our calendar and cannot be eliminated.

The change to an improved calendar need not disturb cumulative studies now in progress. Since the total number of days in the year is unchanged, an "equivalent date" in the new calendar can easily be computed for each date in the Gregorian calendar. For example, the 61st day of the year is March 2 in the Gregorian calendar and February 30 in The World Calendar. With all dates converted into the new form, computations of time-intervals could proceed without error.

Some British Suggestions

By SIR CHARLES VERNON BOYS, K.B., LL.D.,
F.R.S., A.R.S.M., British Physicist, and
ELLIOTT CRESSON, Gold Medalist of the
Franklin Institute, 1939

RECENTLY one of your contributors pointed out that there is nothing sacrosanct in the week of seven days or rather that there is nothing in Nature to correspond with it. This no doubt is the case. All the same the ever recurring week of seven days is about the only thing in our measurement of time which has never varied. I suppose that when the mob shouted "give us back our 11 days!" it was only the days of the month that they thought they had lost, not days of the week, which pursued their invariable rotation through the troubled times. This has its value in historical time-reckoning because the number of days from any one Sunday in one century to any Sunday in any other century is of necessity a multiple

of seven, and this is the only consistently regular thing about time-measurement through the ages that there is. With the new calendar (World Calendar), which we are convinced is by far the best, this goes overboard at once.

Again coming to the daily life of the great majority of our people, they are paid by the week and the regularly recurring week makes this easy and natural. With the new calendar there is an odd day for each of three years and two odd days in the fourth. Of course adjustment can be made and it will have to be made for this small complication. Similarly when service is terminated at a month's notice, if that is a four-week month, not a calendar month, the odd day might get in the way and, unless provided for by law, it would be a potent cause for disagreement at times when relations are apt to be strained.

We are mentioning these things not because they cannot be met and met fully, but because they do destroy our only regular sequence, and because, if not very carefully ordained, they may open the door to the "sea-lawyer" to stir up strife.

Another question is the date of Easter and of the movable feasts of the Churches. Surely the Easter of the Church now has nothing to do with the spring holiday of joy-riding and sea bathing which the public look to for recreation and as a break in their daily work. All we have to do is to call this holiday the "Spring Holiday" or use any name for it that will go down well and leave the Church Easter to the ecclesiastical authorities. If they do not mind stabilizing Easter well and good, but if they do we can have our spring holiday at any time that is preferred, and not necessarily at the same time for all countries. According to the latitude and the climate the most advantageous times for the spring holiday, to be settled independently for each country, might well differ by as much as a month. This is a good reason for not being tied to the ecclesiastical Easter.

You will understand that in urging the independence of the spring holiday and the ecclesiastical Easter we are not making any suggestion unfriendly to the Church, quite the reverse; where two things have nothing to do with one another it is not to the advantage of either that they should be tied together and be made to run like the competitors in a three-legged race.

FROM THE MAIL BAG

I find I sympathize with much in your program.—J. Beaumont Pease, Chairman of Lloyds Bank, London.

Department store people will, I am sure, be most interested in this calendar reform and, as President of the International Association of Department Stores, the members of which are the most important department stores in seven European countries, I shall be ready to draw the members' attention to your Association.—S. Bøgelund-Jensen, Man. Dir., Th. Wessel & Vett, Magasin du Nord, Copenhagen.

I am sure that the main point to emphasize with regard to a change in the calendar system is the 12-month as opposed to the 13-month system. In passing its Resolution, the Universal Christian Council I think intended to note the acceptance by the Churches generally of (1) the principle of a fixed Easter, and (2) the principle of a 12-month, as opposed to a 13-month, calendar.—The Right Reverend The Lord Bishop of Chichester, England.

Our changing civilization makes calendar adjustments a necessity for effective coordination of our multiple interests.—Dr. E. LeRoy Dakin, Minister, Milwaukee.

I congratulate you on the fine work which you are doing in the education of the public along the line of an improved calendar.—Prof. H. Crew, Evanston, Ill.

From this new post, to which I have been promoted, I fondly hope that I shall be able to do much more talking and writing in favor of your so highly important and urging movement. — Rev. Armand Morissette, S. M. I., O. M. I. Provincial House, Lowell, Mass.

Heartily in favor of this movement.—Dr. H. Jackson, Physician, Winnetka, Ill.

I am convinced The World Calendar will be the best in every way from the standpoint of the Certified Public Accountant.—G. W. Schwartz, C. P. A., Chicago

Shall endeavor to do all in my power, be it ever so little, for the progress and advancement of calendar reform. I wish the movement all success.—Don. Cornelis P. Beneragama, Anguruwatota, Ceylon.

I am heartily in favor of the adoption of The World Calendar.—Prof. J. W. Bailey, Berkeley, Cal.

The World Calendar is by far the best devised, and I hope that you can get it universally adopted.—C. B. Jones, Tulsa.

I am as cordially in favor of The World Calendar as I was uncompromisingly opposed to the plan to divide the year into 13 months.—Mr. Lee W. Zeigler, Newburgh, N. Y.

Here at last—is a calendar.—Harry Rosenthal, Jersey City.

I think the proposed World Calendar shows thrift of mind, of time, and most of all, saving of money.—J. Olin Van Ness, Houston, Tex.

Some day we may get the date of Easter established in all the Christian Churches by common agreement. The present divergence in dates upsets our Church winter schedules very considerably and often makes us trouble. Fixing the date of Easter irrevocably henceforth for April 8 or the second Sunday in April would keep up Church attendance a little longer and still not bring it so late that spring fever and week-end jaunts into the country would upset Church business.—Theodore Ainsworth Greene, D.D., New Britain, Conn.

I am sincerely interested in your work, and will take opportunity to say so when and where I can be of service to the idea.—Dr. Robert Whitaker, Los Gatos, Cal.

Heartily support your very clear principle that the fixation of the calendar and the fixation of Easter are two very different things, quite mutually independent, and that each requires a separate act of universal agreement for its fulfillment. So many reforms that I have seen try to do both at once, and the public gets some kind of confused notion that calendar reform is inseparable from the fixation of Easter, which throughout all history has been one of the touchiest points of religious and civil controversy.—Rev. Raymond F. Wood, S. J., Mount Saint Michael's, Spokane, Wash.

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INTERNATIONAL ORGANIZATIONS FOR REFORM OF THE CALENDAR

ARGENTINA: Comité Argentino del Calendario Mundial, Rear Admiral José Guisasa, Chairman, Escuela Naval de Guerra, Buenos Aires.

AUSTRALIA: Committee on Calendar Reform of the Australian and New Zealand Association for the Advancement of Science, C. W. Allen, Secy., Solar Observatory, Canberra.

BELGIUM: Belgian National Committee on Calendar Reform, Professor M. Dehalu, President, l'Université de Liège, Liège.

BOLIVIA: Comité Boliviano del Calendario Mundial, Don Moises Santivanez, Chairman, Biblioteca Nacional, Sucre.

BRAZIL: Comité Brasileiro do Calendario Mundial, Captain Radler de Aquino, Chairman, Rua Raul Pompeia No. 133, Rio de Janeiro.

CANADA: Rational Calendar Association, Lt.-Col. J. Murray Muir, Secy., 82 Jane St., Toronto 5.

CHILE: Comité Chileno del Calendario Mundial, Prof. Alberto Cumming, Chairman, Calle Manuel Rodriguez, Santiago.

CHINA: Chinese Association for the Study of Calendar Reform, Dr. Ch'ing-Sung Yü, Director, National Institute of Astronomy, Kunming, Yunnan.

COLOMBIA: Comité Colombiano del Calendario Mundial, Dr. Eduardo Posada, Chairman, Consulado General de Honduras, Apartado 42, Bogota.

COSTA RICA: Comité Costarricense del Calendario Mundial (Igualmente de Guatemala, Honduras, El Salvador y Nicaragua), Don Teodoro Picado, Chairman, San Jose.

CUBA: Comité Cubano del Calendario Mundial, R. P. Mariano Gutierrez Lanza, Chairman, Belén Observatory, Havana.

DOMINICAN REPUBLIC: Comité Dominicano del Calendario Mundial, H. E., The Most Reverend Ricardo Pittini, S.C., Archbishop of Santo Domingo, Chairman, Ciudad Trujillo.

ECUADOR: Comité Ecuatoriano del Calendario Mundial, Dr. Rafael H. Elizalde, Chairman, Calle Cienfuegos 158, Santiago, Chile.

ENGLAND: Rational Calendar Association, C. David Stelling, Director, 38, Parliament Street, London.

FRANCE: Comité National pour la Reforme du Calendrier, Senateur Justin Godart, President; Paul-Louis Hervier, Secy., 5, Rue Bernoulli, Paris.

GERMANY: Deutscher Ausschuss für Kalenderreform, Dr. Grosse, Geschäftsführer, Neue Wilhelmstr. 9/11, Berlin N. W. 7.—Der Weltbund für Kalenderreform, Dr. Rudolph Blochmann, Secy., 24 Lornsenstrasse, Kiel.

GREECE: Greek National Committee on Calendar Reform, Prof. S. Plakidis, Secy., Observatory of University of Athens, Athens.

HUNGARY: Hungarian Committee for Study of Calendar Reform, Dr. Paul Vajda, Secy., 9 Eotos Utca, Budapest.

IRELAND: Committee for Calendar Reform, E. K. Eason, Secy., 80, Mid. Abbey St., Dublin.

ITALY: Italian National Committee on Calendar Reform, Prof. Amedeo Giannini, Secy., Via del Seminario, 113, Rome.

MEXICO: Comité Mejicano del Calendario Mundial, Dr. Joaquin Gallo, Chairman, Observatorio Astronomico Nacional, Tacubaya, D. F.

PANAMA: Comité Panameno del Calendario Mundial, Don Octavio Mendez Pereira, Chairman, University of Panama, Panama.

PARAGUAY: Comité Paraguayo del Calendario Mundial, H. E. Senor Ministro Coronel don Luis Irrazabal, Chairman, Calle Moneda 1938, Santiago, Chile.

PERU: Comité Peruano del Calendario Mundial, Don Luis Montero y Tirado, Chairman, Casilla 220, Lima.

POLAND: Polish Committee for Calendar Reform, Albin Jakiel, Chairman, Krasiuskiego 21 m. 27, Warsaw.

SOUTH AMERICA: Comité Latino-Americano del Calendario Mundial, Rev. Eugenio V. Rosso, Acting President, Instituto Teológico Don Bosco, Cisterna, Santiago, Chile. This committee directs the activities of national organizations in Argentina, Brazil, Costa Rica, Mexico, Uruguay, Chile, Peru, Venezuela, Bolivia, Cuba, Ecuador, Colombia, Dominican Republic, Paraguay, and Panama. The honorary presidents of the committee are Dr. L. S. Rowe, Director-General of the Pan American Union, and H. E. Dr. Alfredo de Castro.

SPAIN: Spanish Calendar Reform Committee, Rev. Father Antonio Romana, S.J., Chairman, Observatorio del Ebro, Tortosa.

SWITZERLAND: Swiss Committee on Calendar Reform, Prof. Emile Marchand, Secy., Mythenstrasse 2, Zurich 2.—Comité International de Coopération de l'Association Universelle du Calendrier, M. Raymond Mage, Secrétaire Général, Palais Wilson, Geneva.

TURKEY: Committee on Calendar Reform, Dr. M. I. Dereoglu, Secy., P. O. Box 1121, Hanhaym Han No. 1, Istanbul.

URUGUAY: Comité Uruguayo del Calendario Mundial, Prof. Alberto Reyes Thevenet, Chairman, Liceo de Enseñanza Secundaria Hector Miranda, Calle Sierra 2268, Montevideo.

VENEZUELA: Comité Venezolano del Calendario Mundial, Don Edgar J. Anzola, Chairman, Apartado de Correos No. 207, Caracas.

YUGOSLAVIA: Yugoslavian Committee on Calendar Reform, Georges Curcin, Chairman, Poenkareova 25—III, Belgrade.

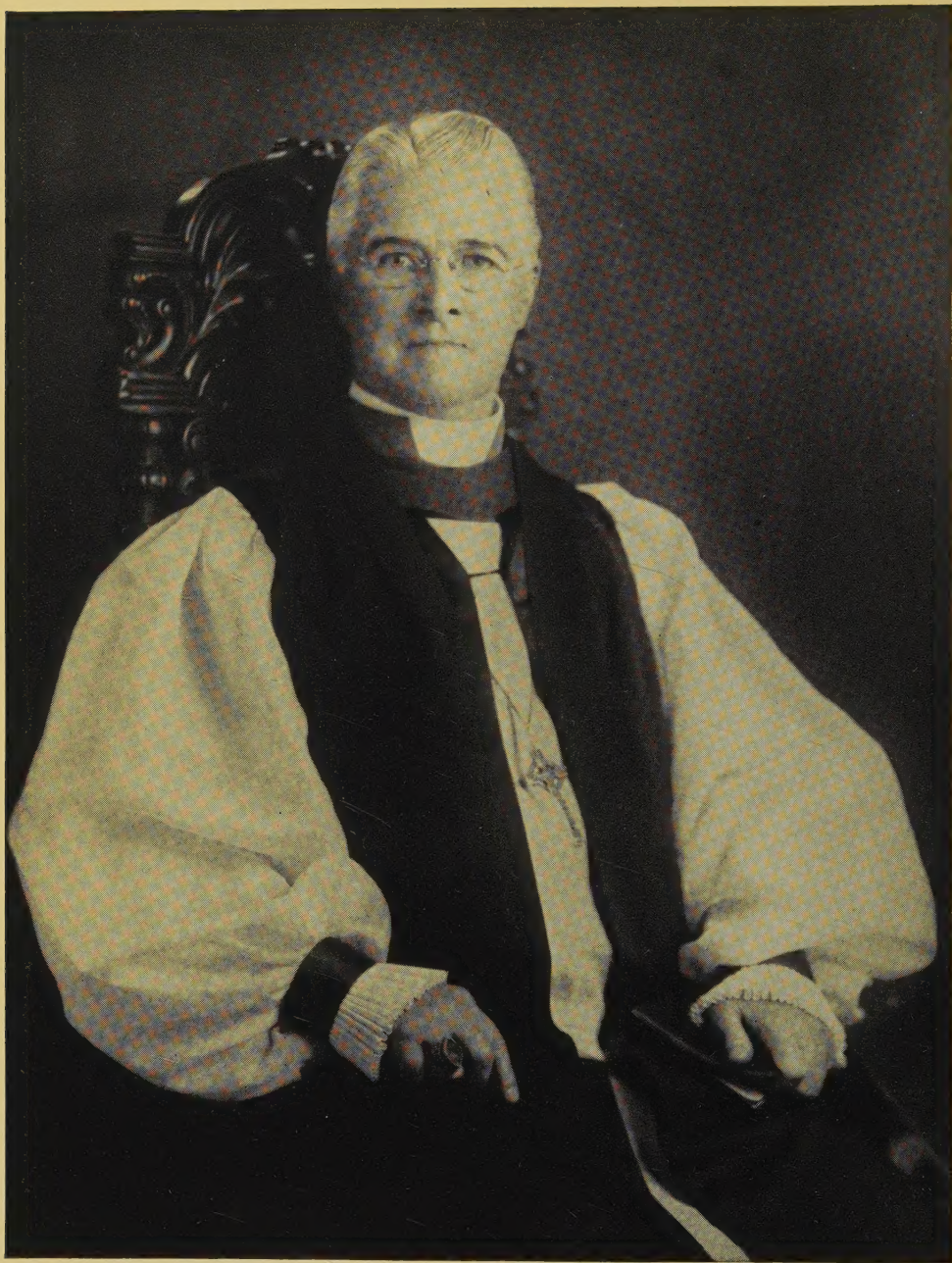
THE RIGHT REVEREND ERNEST MILMORE STIRES

Bishop of the Diocese of Long Island

Bishop Stires has been Bishop of the Diocese of Long Island since November 24, 1925. Born in Norfolk, Virginia, on May 20, 1866, he graduated from the University of Virginia in 1888, a Bachelor of Letters, and from the Episcopal Theological Seminary of Virginia in 1891. He received the degree of Doctor of Divinity from Trinity College in 1901 and is the holder of many honorary degrees. Ordained a deacon in 1891, a priest in 1892, he became Rector at West Point, Virginia, in 1891, Church of the Good Shepherd, Augusta, Georgia, in 1893, and Grace Church in Chicago the same year. He came to St. Thomas' Church in New York in 1901.

He has been Chaplain of the Richmond Hussars of Augusta, Georgia, the Naval Reserves of Chicago, and the First Illinois Cavalry. Author of several books, his "The High Call" and "The Price of Peace" will be particularly remembered.

He became a member of the American Advisory Committee of The World Calendar Association in April, 1938. Long an advocate of calendar reform, he seconded the resolution presented by the Right Reverend William T. Manning, Bishop of New York, which secured the Protestant Episcopal Convention's endorsement of The World Calendar in 1934. Bishop Stires has since restated his approval "When the proposal came before our General Convention I was glad to advocate it most warmly. It has everything to commend it, and I do not know of any reasonable objection which can be advanced against it. It is bound to win. May the victory come soon!"



THE RIGHT REVEREND ERNEST MILMORE STIRES
Bishop of the Diocese of Long Island, New York
(See Article on Page 147)